Red Hat Enterprise Linux 5
5.3 Release Notes

Release Notes für alle Architekturen.
Ausgabe 3

Ryan Lerch

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Ausgabe 3

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Rechtlicher Hinweis

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Zusammenfassung

Dieses Dokument enthält die Release Notes für Red Hat Enterprise Linux 5.3.

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1. Release Notes Updates

This section contains information about Red Hat Enterprise Linux 5.3 that did not make it into the Release Notes included in the distribution.

1.1. Feature Updates

Audit Aktualisierung

The audit packages contain user-space utilities for storing and searching the audit records generated by the audit subsystem in the Linux 2.6 kernel.

These updated packages upgrade the auditd daemon and its utilities to the newer upstream version 1.7.7, which provides the following enhancements over the previous version:

- the auditctl program, which is used to control the behavior of the audit subsystem, now supports multiple keys in the audit rules.
- a new utility, ausyscall, which is used to cross-reference syscall name and number information, is now provided in these updated packages.
- the aureport program has been enhanced to provide reports about keys it sees in audit events.
- event log parsing for the ausearch and aureport programs has been improved.
- a sample STIG rules file, named "stig.rules", is newly provided in these updated packages. This file contains the auditctl rules which are loaded whenever the audit daemon is started by init scripts.

In addition to the listed enhancements, these updated audit packages also include a new feature to allow a server to aggregate the logs of remote systems. The following instructions can be followed to enable this feature:

1. The audispd-plugins package should be installed on all clients (but need not be installed on the server), and the parameters for "remote_server" and "port" should be set in the /etc/audisp/audisp-remote.conf configuration file.
2. On the server, which aggregates the logs, the "tcp_listen_port" parameter in the /etc/audit/auditd.conf file must be set to the same port number as the clients.
3. Because the auditd daemon is protected by SELinux, semanage (the SELinux policy management tool) must also have the same port listed in its database. If the server and client machines had all been configured to use port 1000, for example, then running this command would accomplish this:

```
semanage port -a -t audit_port_t -p tcp 1000
```

4. The final step in configuring remote log aggregation is to edit the /etc/hosts.allow configuration file to inform tcp_wrappers which machines or subnets the auditd daemon should allow connections from.

wpa_supplicant re-base

wpa_supplicant has been re-based to the latest upstream stable version 0.5.10 and include backported fixes for a number of issues that may affect users of wireless drivers that depend on the kernel's mac80211 wireless stack. Specific fixes and enhancements include:

- Support for a D-Bus control interface has been added. D-Bus is a popular lightweight Inter-Process Communication mechanism, and the addition of this control interface to

wpa_supplicant allows applications (like NetworkManager) to more reliably control the supplicant.

- Cisco Aironet 340/350 wireless cards were not able to successfully connect to 802.1x-enabled wireless networks, often used in security sensitive organizations. During the connection process at the 4-Way WPA handshake stage, sending encryption keys to the driver would clear the wireless card firmware's authentication state. With this update, the supplicant uses an alternate method of supplying encryption keys to the kernel driver, allowing authentication state to be preserved in the Aironet firmware and 802.1x connections to succeed.
- Kernel drivers utilizing the new mac80211 wireless stack were sometimes unable to connect to wireless networks, either failing to find the requested network, or prematurely ending communication with the wireless access point during the connection process. Some drivers were prone to reporting multiple disconnection events during the association process, confusing the supplicant and causing long timeouts. The supplicant also did not sufficiently instruct the driver to disconnect when switching access points. This update fixes these issues and, in conjunction with kernel driver updates, allow more wireless hardware to successfully connect to wireless networks.

NetworkManager re-base

NetworkManager has been updated to version 0.7.0. This update provides the following fixes and enhancements:

- NetworkManager would not display a LEAP password, even when the user selected the "show password" option. This has been fixed through a rebase to NetworkManager 0.7.
- During the beta phase, a version of NetworkManager was unable to automatically start network interfaces for which "ONBOOT=no" was present in the ifcfg file. NetworkManager now ignores this value unless "NM_RESPECT_ONBOOT=yes" is also present.
- a NetworkManager plug-in was named for its upstream repository. This could cause end-users to mistake the plug-in for an un-supported addition to Red Hat Enterprise Linux. This plug-in has been renamed to "ifcfg-rh".
- with this update, support has been added to NetworkManager for wired 802.1x authentication. However, after creating an 802.1x-enabled wired connection in the NetworkManager connection editor, it may be necessary to log out, then log back in before the connection can be used from the NetworkManager applet menu.
- NetworkManager attempted to set a hostname, but only after X had already done so. The user could not then open new windows because the authority files had been set by X with a different hostname. NetworkManager no longer sets hostnames.
- an update for NetworkManager that was available in the beta phase would change the run level enablement of the package during installation, and thus prevent NetworkManager from starting. NetworkManager no longer changes run level enablements during installation.
- on a system with more than one network adapter, network keys saved by the user while connecting with one adapter would not be available when the user attempted to connect with the other adapter. NetworkManager can now retrieve and use network keys saved for a different adapter on the same network.
- previously, NetworkManager would not always prompt the user for a new network key if the protocol or key of a wireless network changed. Although NetworkManager would wait for a new key, it would not always open a dialog box and allow the user to provide one. NetworkManager will now open a dialog box when needed.
- several bug fixes and enhancements for NetworkManager were available upstream. NetworkManager has been rebased to version 0.7 to incorporate these improvements,

including mobile broadband functionality, Phase2 WPA support, and static IP functionality.

- NetworkManager would would cause a segmentation fault when resuming a session. This was caused by the HAL dropping privileges before connecting to D-Bus, meaning that the HAL could not send signals to NetworkManager. NetworkManager now explicitly permits signals from the HAL.
- sometimes, X would freeze if the NetworkManager menu and a keyring manager window were open at the same time. This updated package includes a patch from upstream that prevents this behavior.
- if NetworkManager requires a network key from the user, it will open a pop-up window. However, the applet previously could not steal focus from metacity and would remain in the background. The window was therefore not obvious to the user. The applet now opens in the foreground, alerting the user to take action.
- when resuming, NetworkManager could sometimes re-establish a wireless connection, but not a route. A fix for this problem from upstream has been included in this update.
- NetworkManager did not previously support Cisco Airo Wi-Fi cards, as these devices did not respond to NetworkManager's attempts to detect them. NetworkManager can now detect and use these cards.
- the NetworkManager applet would wake up and redraw its icon once per second, even when NetworkManager was not active. Now, the applet will not wake up unless NetworkManager is running.
- NetworkManager 0.7 connects faster than libnotify can provide a notification bubble. When this happens, the bubble will appear at the top left corner of the screen, rather than under the taskbar. NetworkManager notification bubbles are now delayed for a few seconds, allowing libnotify to react.

dbus-glib re-base

The dbus-glib integration library has been re-based to version 0.73.8 This update provides support to updated versions of NetworkManager and also implements the following bugfix and enhancements

- cleanup of the DBusGProxy objects treated pending remote method calls incorrectly and may have resulted in freeing invalid memory. Consequently, processes using DBusGProxy objects may have crashed when the DBusGProxy object was freed. With this update dbus-glib correctly handles the destruction of DBusGProxy objects, resolving this issue.
- two new function calls, **`dbus_g_proxy_call_with_timeout`** and **`dbus_g_proxy_begin_call_with_timeout`**, have been added to dbus-glib providing the ability to specify a timeout when making a request to a remote service.
- dbus-binding-tool now ignores namespaced Extensible Markup Language (XML) nodes when processing introspection definition files.

Sudo Aktualisierung

sudo wurde grundlegend aktualisiert auf Upstream Version 1.6.9. Diese Version von sudo unterstützt nun LDAP, und ermöglicht das Suchen nach **sudo**-Rechten auch im Unterbaum, statt nur der Basis-Suche (d.h. nur Baum-Ebene). Dies ermöglicht es Administratoren, **sudo**-Rechte in einem Baum zu kategorisieren, was wiederum die Handhabung der Benutzerprivilegien vereinfacht.

Anmerkung

the **env_reset** sudoers option from newer sudo will reset the PATH environment variable. This is different from the behaviour in sudo-1.9.8. To keep the old behaviour simply add PATH variable into env_keep in **sudoers** file.

LVM-based Cluster mirroring

With this update, the ability to create LVM mirrors in a cluster environment (i.e. while using CLVM) is now available in Red Hat Enterprise Linux It provides for simultaneous access from multiple cluster machines, like when using a cluster-aware file system. This solution is compatible with existing single-machine mirrors. When switching a mirrored logical volume between single-machine and cluster-aware, no resynchronization is necessary.

1.2. Resolved Issues

- **system-config-network** requires the fonts provided with **xorg-x11-fonts-Type1** in order to display. However, this fonts package was not previously set as a dependency for **system-config-network** and it was therefore possible (for example, in the case of a minimal installation) for **system-config-network** to be present on a system and yet unable to function because these fonts were missing. This update sets **xorg-x11-fonts-Type1** as a dependency for **system-config-network** to ensure that these fonts will be available and that **system-config-network** will display correctly.
- In Red Hat Enterprise Linux 5.2, a 64-bit version of **httpd** was included in addition to the existing 32-bit **httpd** in the PowerPC architecture. If a user installed both versions, an **httpd** conflict would occur, preventing **httpd** from functioning properly.

  To resolve this issue, the 64-bit version of **httpd** has been removed from this release. Any systems with the previous 64-bit version of **httpd** installed should remove the package before upgrade.

1.3. Driver Updates

- the SCSI device handler infrastructure (**scsi_dh**) has been updated, providing added support for LSI RDAC SCSI based storage devices.
- the tg3 driver for Broadcom Tigon3 ethernet devices has been updated to version 3.93. This applies several upstream changes for new hardware. However, the 5785 hardware is not fully supported. This device may be detected by the driver, but lack of PHY support may cause these chips to not function correctly and may require the user disable any on-board 5785 cards in the system BIOS.
- **scsi-target-utils** now features *iSCSI Extensions for RDMA* (iSER), which is based on the Linux Target (tgt) framework. iSER is included in this release as a Technology Preview, and provides capabilities for both single and multiple portals on different subnets. Note, however, that there are known bugs with using multiple portals on the same subnet.

  To set up an iSER target component, install the **scsi-target-utils** and **libibverbs-devel** packages. The corresponding library package for your system's Infiniband hardware is also required. For example, in HCAs that use the **cxgb3** driver the **libcxgb3** package is needed, and for HCAs using the **mthca** driver the **libmthca** package is need.
- The MPT Fusion driver has been updated to version 3.04.06, providing the following bugfixes and enhancements:
  - Previously, the MPT Fusion driver always allocated I/O resources, even if they were not required,

which may have caused issues in low resource environments. With this update, the driver now uses the pci_enable_device_mem and pci_enable_device functions to differentiate the resource allocations.

- Previously, the kernel would panic when the mptsas and mptcl modules were loaded in parallel. With this update, this issue has been resolved.
- Previously, system power state changes (such as hibernation and standby) were not functioning correctly with 106XE controllers. With this update, the driver has been modified to free and allocate resources in power management entry points.

1.4. Virtualization

- Ein Fehler im IDE/ATA Treiberstapel, der ein **`kernel-xen`** verwendendes Systemvom Booten in die **`kdump`**-Umgebung hindern konnte, wurde jetzt behoben. In früheren Releases trat dieser auf, wenn das System auf eine Kernel Panik traf während das IDE-Gerät I/O durchführte und das IDE-Gerät durch einen Gerätetreiber gesteuert wurde, bei dem es sich nicht um **`libata`** handelte.
- A softlockup may have occurred when creating a guest with a large amount of memory. Consequently, a call trace of the error was displayed on both the dom0 and the other guest. In this update, this issue has been resolved.
- On systems with large amounts of memory (ie 256GB or more), setting up the dom0 could exhaust the hypervisor memory heap. To work around this, the xenheap and dom0_size command line arguments had to be set to valid values for the system. In this update, the hypervisor has been updated to automatically set these values to a default of 32GB, which resolves this issue.
- Due to technical problems with passing TX checksum offload information between paravirtual domains, the use of TX checksum offload in conjunction with NAT for traffic originating from another domain is not supported. TX checksum offload can be used together with NAT as long as the NAT rule is applied in the domain where the traffic originates.

  Note that this also applies to fully virtualised domains using paravirtual network drivers. Fully virtualised domains using fully virtualised drivers are not affected as they do not support TX checksum offload at all.

1.5. Known Issues

- Previous versions of the 5.3 Release Notes stated that the CD-ROM/DVD-ROM unit on *Dell PowerEdge R905* servers does not work with Red Hat Enterprise Linux 5. This note was included by error, and does not apply to Red Hat Enterprise Linux 5.3.
- **kdump** now serializes drive creation registration with the rest of the **kdump** process. Consequently, **kdump** may hang waiting for IDE drives to be initialized. In these cases, it is recommended that IDE disks not be used with **kdump**.
- Improvements have been made to the 'nv' driver, enhancing suspend and resume support on some systems equipped with nVidia GeForce 8000 and 9000 series devices. Due to technical limitations, this will not enable suspend/resume on all hardware.
- **pirut** sorts some package lists using the textual representation of a package, which is inconsistent with the textual representation method used in **yum**. As such, some package lists (e.g. **Optional Packages** list) in **pirut** may not display names in alphabetical order.
- The Hypervisor outputs messages regarding attempts by any guest to write to an MSR. Such messages contain the statement **`Domain attempted WRMSR`**. These messages can be safely ignored; furthermore, they are rate limited and should pose no performance risk.
- When upgrading from Red Hat Enterprise Linux 4 Workstation to 5 Server, **OpenOffice** will no longer work correctly with SELinux. This is because the Red Hat Enterprise Linux version of **OpenOffice** is built using an incorrect library. As a result, SELinux will prevent **OpenOffice** from accessing any shared libraries, causing **OpenOffice** to fail.

To work around this, update the SELinux context to allow **OpenOffice** to access shared libraries. To do so, run the following commands:

```
semanage fcontext -a -t textrel_shlib_t '/usr/lib/ooo-1.1(/.*)?'
semanage fcontext -a -t textrel_shlib_t '/usr/lib64/ooo-1.1(/.*)?'
restorecon -Rv /usr/lib/ooo-1.19
restorecon -Rv /usr/lib64/ooo-1.19
```

Alternatively, you can also upgrade your **OpenOffice** to a correct version compatible with SELinux in Red Hat Enterprise Linux 5. You can do this by subscribing to the "Productivity App" child channel in Red Hat Network and running the following command:

```
yum install openoffice-{base,calc,draw,emailmerge,graphicfilter,headless,impress,javafilter,math,pyuno,writer,xsltfilter}
```

- If jumbo frames are enabled on your system, a kernel panic will occur if you attempt to unload the **bnx2** module.
- Red Hat advises that you avoid removing a block device from a guest while the device is in use. Doing so causes Xend to lose domain information for the guest.
- Accessing the right-click menu of the **NetworkManager** GNOME applet may cause the GNOME **Keyring Unlock** dialog to appear. When this occurs, no XII applications can receive keyboard or mouse input.

  To recover from this, switch to a virtual terminal using **Ctrl**+**Alt**+**F1**. Log in as the affected user (or root) and run **killall -9 nm-applet**. Then, switch back to X11 using **Ctrl**+**Alt**+**F7**. Your system should be able to receive keyboard and mouse input, although Red Hat recommends that you logout and login again to allow the system to fully recover.
- On Altix systems with an ATI FireMV graphics adapter, the GUI console may not display on one of the VGA connectors. To workaround this issue, switch to using the other VGA connector on the dongle.
- It has been determined that 1024 byte objects in kernel slab may be lost when a call to pipe() fails. The problem occurs because pipe() allocates pipe files, and then tries to get free file descriptors for them. If the process is out of file descriptors, pipe() fails, but it does not clean up properly. A fix for this problem is planned for a forthcoming 5.3 kernel update.

  To workaround this issue, ensure that the process calling do_pipe has adequate file descriptors allocated.

  This issue has been observed with **multipathd** in particular. To avoid the problem with **multipathd**, calculate the number of file descriptors (FDs) required using the formula: "FDs = Number of Paths + 32". If the result is greater than the default value of 1024, then the max_fds value in the defaults section of multipath.conf should be set to the previously calculated value. For example, if there are 255 LUNs with 8 paths each, the line to be added to the defaults section of multipath.conf would be:

  ```
  max_fds  2072
  ```

- The **libcmpiutil-devel** package depends on **tog-pegasus-devel**, which for the Red Hat Enterprise Linux Desktop product is only available from the Workstation option. Therefore, any attempt to install the **libcmpiutil-devel** package on a system that does not have a Subscription including the Workstation option or is not subscribed to the Workstation channel on the Red Hat Network, will fail with an unresolved dependency error.
- It is possible in rare circumstances, for **makedumpfile** to produce erroneous results but not have them reported. This is due to the fact that **makedumpfile** processes its output data through a pipeline consisting of several stages. If **makedumpfile** fails, the other stages will still succeed, effectively masking the failure. Should a vmcore appear corrupt, and makedumpfile is in use, it is recommended that the core be recorded without makedumpfile and a bug be reported.

- An issue may be encountered when using **system-config-cluster** to configure a Postgres 8 resource agent, resulting in the postgresql service failing to start. To include a Postgres resource agent in your cluster, please check the man page for the agent, and edit the **cluster.conf** file in an editor, then update the cluster with the new configuration file using the appropriate **cman_tool** command.
- Due to outstanding driver issues with hardware encryption acceleration, users of Intel WiFi Link 4965, 5100, 5150, 5300, and 5350 wireless cards are advised to disable hardware accelerated encryption using module parameters. Failure to do so may result in the inability to connect to Wired Equivalent Privacy (WEP) protected wireless networks after connecting to WiFi Protected Access (WPA) protected wireless networks.

  To do so, add the following options to **/etc/modprobe.conf**:

  ```
  alias wlan0 iwlagn
  options iwlagn swcrypto50=1 swcrypto=1
  ```

  (where wlan0 is the default interface name of the first Intel WiFi Link device)
- kdump now restarts when CPUs or DIMMs are hot-added to a system. If multiple items are added at the same time, several sequential restarts may be encountered. This behavior is intentional, as it minimizes the time-frame where a crash may occur while memory or processors are not being tracked by kdump.

1.6. Technology Previews

Software based Fibre Channel over Ethernet (FCoE)

The Fibre Channel over Ethernet (FCoE) driver (fcoe.ko), along with libfc, provides the ability to run FCoE over a standard Ethernet card. This capability is provided as a technical preview in Red Hat Enterprise Linux 5.3.

To enable this feature, you must login by writing the network interface name to the **/sys/module/fcoe/parameters/create** file, for example:

```
echo eth6 > /sys/module/fcoe/parameters/create
```

To logout, write the network interface name to the **/sys/module/fcoe/parameters/destroy** file, for example:

```
echo eth6 > /sys/module/fcoe/parameters/destroy
```

For further information on software based FCoE refer to: http://www.open-fcoe.org/openfc/wiki/index.php/FCoE_Initiator_Quickstart.

Red Hat Enterprise Linux 5.3 bietet vollständigen Support für FCoE auf drei spezialisierten Hardware Implementierungen. Diese sind: Cisco **fnic**-Treiber, der Emulex **lpfc**-Treiber und der Qlogic **qla2xx**-Treiber.

iSER Support

iSER support, allowing for block storage transfer across a network, has been added to the **scsi-target-utils** package as a Technology Preview. In this release, single portal and multiple portals on different subnets are supported. There are known bugs when using multiple portals on the same subnet.

To set up the iSER target component install the scsi-target-utils and libibverbs-devel RPM. The library package for the InfiniBand hardware that is being used is also required. For example:

host channel adapters that use the **cxgb3** driver the **libcxgb3** package is needed, and for host channel adapters using the **mthca** driver the **libmthca** package is needed.

There is also a known issue relating to connection timeouts in some situations. Refer to Red Hat Bugzilla #470627 for more information on this issue.

2. Installation-Related Notes

This section includes information specific to **Anaconda** and the installation of Red Hat Enterprise Linux 5.3.

Red Hat Network can install the new and changed packages and upgrade an existing Red Hat Enterprise Linux 5 system. Alternatively, **Anaconda** can upgrade an existing Red Hat Enterprise Linux 5 system or perform a fresh installation of Red Hat Enterprise Linux 5.3.

Note: upgrading from beta releases of Red Hat Enterprise Linux 5.3 to this GA release is not supported.

Further, although **Anaconda** provides an option for upgrading from earlier major versions of Red Hat Enterprise Linux to Red Hat Enterprise Linux 5.3, Red Hat does not currently support this. More generally, Red Hat does not support in-place upgrades between any major versions of Red Hat Enterprise Linux. (A major version is denoted by a whole number version change. For example, Red Hat Enteprise Linux 4 and Red Hat Enterprise Linux 5 are both major versions of Red Hat Enterprise Linux.)

In-place upgrades across major releases do not preserve all system settings, services or custom configurations. Consequently, Red Hat strongly recommends fresh installations when upgrading from one major version to another.

2.1. All Architectures

- Die **Text Mode**-Installation von **Anaconda** bietet nun die Möglichkeit, zu Virtual Network Computing (VNC) zu wechseln, um die Installation abzuschließen.
- Das Erstellen oder Benutzen von verschlüsselte Platten im Software-RAID-Verbund (d.h. **software RAID** Partitionen) wird nicht unterstützt. Das Erstellen von verschlüsselten Software RAID Arrays (d.h. **/dev/md0**) wird hingegen unterstützt.
- The NFS default for RHEL5 is "locking". Therefore, to mount nfs shares from the %post section of anaconda, use the **mount -o nolock,udp** command to start the locking daemon before using nfs to mount shares.
- Bei der Installation von CD-ROM oder DVD-ROM auf einem System mit einem iBFT-konfigurierten Netzwerkgerät, bindet **Anaconda** keine iBFT-konfigurierten Speichergeräte ein, bis das Netzwerk konfiguriert ist. Um das Netzwerk für die Installation zu aktivieren, verwenden Sie den Befehl **linux updates=http://*[any]*** am Installations-Boot-Prompt. Beachten Sie, dass ***[any]*** mit einer beliebigen URL ersetzt werden kann.

  Falls Ihr System eine statische IP-Konfiguration benötigt, verwenden Sie den Befehl **linux updates=http://*[any]* ip=*[IP address]* netmask=*[netmask]* dns=*[dns]***.
- Verwenden Sie bei der Installation von Red Hat Enterprise Linux 5.3 auf einem voll virtualisierten Gast *nicht* den **kernel-xen**-Kernel. Das Verwenden dieses Kernels auf voll virtualisierten Gästen kann dazu führen, dass Ihr System hängenbleibt.

  Falls Sie bei der Installation von Red Hat Enterprise Linux 5.3 eine Installationsnummer verwenden, stellen Sie sicher, dass Sie die Paketgruppe **Virtualization** während der Installation deselektieren. Die Paketgruppe **Virtualization** installiert den **kernel-xen**-Kernel.

Beachten Sie, dass paravirtualisierte Gäste von diesem Problem nicht betroffen sind. Paravirtualisierte Gäste verwenden immer den **kernel-xen**-Kernel.

- Wenn Sie bei der Aktualisierung von Red Hat Enterprise Linux 5 auf 5.2 den virtualisierten Kernel verwenden, müssen Sie nach Abschluß der Aktualisierung neu starten. Sie sollten dann das System booten und dabei den aktualisierten virtualisierten Kernel verwenden.

  Die Hypervisoren von Red Hat Enterprise Linux 5 und 5.2 sind nicht ABI-kompatibel. Falls Sie das System nach der Aktualisierung unter Verwendung des aktualisierten virtualisierten Kernels nicht neu starten, entsprechen die aktualisierten Virtualisierungs-RPMs nicht dem laufenden Kernel.
- Bei der Aktualisierung von Red Hat Enterprise Linux 4.6 auf Red Hat Enterprise Linux 5.1 oder später kann **gcc4** dazu führen, dass die Aktualisierung scheitert. Aus diesem Grund sollten Sie das Paket **gcc4** vor der Aktualisierung manuell entfernen.
- Das **firstboot** Sprach-Plugin wurde entfernt, da es das System bei der Auswahl einer neuen Sprache nicht ordnungsgemäß und vollständig neu konfiguriert.
- Bei der Bereitstellung (?) von Gästen während der Installation, steht die **RHN tools for guests** Option nicht zur Verfügung. Für diesen Fall benötigt das System eine zusätzliche Berechtigung (?), unabhängig von der für **dom0** genutzten Berechtigung (?).

  Um den Verbrauch (?) von zusätzlichen Berechtigungen für Gäste zu verhindern, installieren Sie das **rhn-virtualization-common**-Paket manuell, bevor Sie versuchen, das System beim Red Hat Network anzumelden.
- Das Installieren von Red Hat Enterprise Linux 5.3 auf einem System mit mehreren Netzwerkschnittstellen und manuell eingestellten IPv6 Adressen kann zu einer teilweise fehlerhaften Netzwerk-Einrichtung führen. Falls dies auftritt, werden Ihre IPv6 Adressen auf dem installierten System nicht sichtbar sein.

  Für eine provisorische Lösung setzen Sie **NETWORKING_IPV6** auf **yes** in **/etc/sysconfig/network**. Anschließend starten Sie Ihre Netzwerkverbindungen mit dem Befehl **service network restart** neu.
- Falls auf Ihrem System **yum-rhn-plugin-0.5.2-5.el5_1.2** (oder eine frühere Version) installiert ist, wird Ihnen eine Aktualisierung auf Red Hat Enterprise Linux 5.3 mit dem Befehl **yum update** nicht möglich sein. Um dies zu umgehen, aktualisieren Sie Ihr **yum-rhn-plugin** auf die neueste Version (per **yum update yum-rhn-plugin**), bevor Sie den Befehl **yum update** ausführen.
- Bislang konnte **anaconda** nicht auf mehr als 8 *SmartArray* Kontroller zugreifen. In dieser Aktualisierung wurde das Problem nun behoben.
- Ein Treiber-Datenträger, bereitgestellt vom OEM, ist eine einzelne Image-Datei (***.img**), welche eventuell mehrere Treiberpakete und Kernel-Module enthält. Diese Treiber werden während der Installation verwendet, um Hardware zu unterstützen, die andernfalls nicht von Red Hat Enterprise Linux 5 erkannt werden würden. Sind die Treiberpakete und Kernel-Module erst einmal auf dem System installiert, werden sie in der ursprünglichen RAM-Disk (**initrd**) abgelegt, so dass sie beim Systemstart geladen werden.

  Mit dieser Aktualisierung erkennt die Installation nun automatisch das Vorhandensein eines Treiber-Datenträgers (anhand der Dateisystem-Kennung), und verwendet somit den Inhalt des Datenträgers während der Installation. Dieses Verhalten wird in der Befehlszeile der Installation gesteuert durch die Option **dlabel=on**, welche die automatische Suche aktiviert. **dlabel=on** ist die Standardeinstellung für diese Version.

  Alle Blockgeräte mit der Dateisystem-Kennung **OEMDRV** werden untersucht und gefundene Treiber in der Reihenfolge des Antreffens geladen.
- Vorhandene, verschlüsselte Blockgeräte, die **vfat**-Dateisysteme enthalten, werden als Typ **foreign** in der Partitionierungs-Schnittstelle angezeigt werden. Aus diesem Grund werden diese Geräte beim Systemstart nicht automatisch eingehängt. Um zu gewährleisten, dass diese Geräte

automatisch eingehängt werden, ergänzen Sie einen entsprechenden Eintrag in **/etc/fstab**. Für weitere Informationen zur Durchführung, werfen Sie bitte einen Blick auf **man fstab**.

2.2. PowerPC Architectures

- The minimum RAM required to install Red Hat Enterprise Linux 5.2 is 1GB; the recommended RAM is 2GB. If a machine has less than 1GB RAM, the installation process may hang.

  Desweiteren treten bei PowerPC-Rechnern mit nur 1GB Arbeitsspeicher Leistungsprobleme bei bestimmten RAM-intensiven Auslastungen auf. Damit auf einem Red Hat Enterprise Linux 5.2 System RAM-intensive Prozesse optimal ausgeführt werden, sollte der Rechner mit 4GB Arbeitsspeicher ausgestattet sein. So wird gewährleistet, dass das System dieselbe Anzahl an physischen Seitenrahmen besitzt, wie das auf den PowerPC-Rechnern (die 512MB RAM verwenden), die Red Hat Enterprise Linux 4.5 oder eine frühere Version installiert haben.

2.3. s390x Architectures

- **anaconda** unterstützt nun beide Ports auf CHPID für *OSA Express3 cards*. Der Installer fordert die Angabe der Portnummer während der ersten Phase der Installation. Der angegebene Wert für den Port wirkt sich auch auf das installierte Skript zur Initialisierung der Netzwerkschnittstelle aus. Wird der Port 1 ausgewählt, wird der Wert **portno=1** zu den OPTIONS Parametern der **ifcfg-eth***-Datei hinzugefügt.

  Anmerkung

  Bei der Installation unter z/VM können Sie entweder **PORTNO=0** (für Port 0), oder **PORTNO=1** (für Port 1) zu der CMS Konfigurationsdatei hinzufügen, um eine Abfrage des Modus zu verhindern.

- Die Installation auf einem Rechner mit vorhandenen Linux- oder Nicht-Linux-Dateisystemen auf DASD Blockgeräten kann zum Anhalten des Installers führen. Falls dies passiert, ist es nötig, alle vorhandenen Partitionen auf den DASD Geräten, die Sie verwenden wollen, vollständig zu löschen und den Installer neu zu starten.

2.4. ia64 Architecture

- If your system only has 512MB of RAM, attempting to install Red Hat Enterprise Linux 5.3 may fail. To prevent this, perform a base installation first and install all other packages after the installation finishes.
- Using **yum** to install packages from the **32-bit Compatibility Layer** disc may fail. If it does, it is because the Red Hat package signing key was not imported into the RPM database. This happens if you have not yet connected to Red Hat Network and obtained updates. To import the key manually, run the following command as root:

  ```
  rpm --import /etc/pki/rpm-gpg/RPM-GPG-KEY-redhat-release
  ```

  Sobald der Red Hat GPG-Schlüssel importiert wurde, können Sie nun **yum** für die Installation von Paketen vom **32-bit Compatibility Layer** verwenden.

  Beachten Sie, dass es ratsam ist, **yum** anstelle von **rpm** zu verwenden, falls Sie von diesem Datenträger installieren, um so zu gewährleisten, dass Abhängigkeiten des Basis-Betriebssystems während der Installation berücksichtigt werden.

3. Feature Updates

Verschlüsselung von Blockgeräten

Red Hat Enterprise Linux 5.3 unterstützt die Verschlüsselung von Blockgeräten unter Verwendung der Linux Unified Key Setup (LUKS) Spezifikationen. Die Verschlüsselung eines Gerätes schützt alle auf dem Blockgerät enthaltenen Daten gegen unbefugten Zugriff, selbst wenn das Gerät physikalisch vom System getrennt wird. Um auf den Inhalt eines verschlüsselten Gerätes zugreifen zu können, muss der Benutzer ein Passwort oder einen Schlüssel als Authentifikation eingeben.

Für weitere Information über das Verschlüsseln von Platten, werfen Sie bitte einen Blick auf Kapitel 28 des Red Hat Enterprise Linux Installationshandbuchs unter: http://redhat.com/docs/

mac80211 802.11a/b/g WiFi Protokollstapel (mac80211)

Der *mac80211*-Stapel (früher als *devicescape/d80211*-Stapel bekannt) ist in Red Hat Enterprise Linux 5.3 nun ein unterstütztes Feature. Er aktiviert den **`iwlwifi 4965GN`** Wireless-Treiber für *Intel* Wifi Link 4965 Hardware. Dieser Stapel ermöglicht bestimmten Wireless-Geräten, sich mit einem beliebigen WiFi-Netzwerk zu verbinden.

Obwohl die mac80211 Komponente in Red Hat Enterprise Linux 5.3 unterstützt wird, sind die Symbole jedoch nicht in der Symbol-Whitelist für den Kernel enthalten.

Global File System 2 (GFS2)

GFS2 stellt eine inkrementelle Verbesserung von GFS dar. Diese Aktualisierung setzt einige wichtige Verbesserung um, die eine Änderung des On-Disk-Dateisystem-Formats erfordern. GFS-Dateisysteme können mit dem Dienstprogramm **`gfs2_convert`** in GFS2 konvertiert werden, welches die Metadaten eines GFS-Dateisystems entsprechend aktualisiert.

In Red Hat Enterprise Linux 5.2 wurde **GFS2** als Kernel-Modul zu Testzwecken zur Verfügung gestellt. In Red Hat Enterprise Linux 5.3 ist **GFS2** nun Teil des Kernel-Pakets. Falls Red Hat Enterprise Linux 5.2 GFS2 Kernel-Module bereits installiert sind, müssen diese entfernt werden, um die Verwendung von GFS2 in Red Hat Enterprise Linux 5.3 zu ermöglichen.

Verbesserungen der Unterstützung von Treiber-Datenträgern

Ein Treiber-Datenträger, bereitgestellt vom OEM, ist eine einzelne Image-Datei (**`*.img`**), welche eventuell mehrere Treiber-RPMs und Kernel-Module enthält. Diese Treiber werden während der Installation verwendet, um andernfalls nicht erkannte Hardware zu unterstützen. Die RPMs werden auf dem System installiert und in die initrd abgelegt, so dass sie beim Neustart des Rechners unterstützt werden.

Bei Red Hat Enterprise Linux 5.3 kann die Installation anhand der Dateisystem-Kennung automatisch das Vorhandensein eines Treiber-Datenträgers erkennen, und dessen Inhalt während der Installation verwenden. Dieses Verhalten wird in der Befehlszeile der Installation gesteuert durch die Option **`dlabel=on`**, welche die automatische Suche aktiviert. Alle Blockgeräte mit der Dateisystem-Kennung **`OEMDRV`** werden untersucht und gefundene Treiber in der Reihenfolge des Antreffens geladen.

iSCSI Boot Firmware Table

Red Hat Enterprise Linux 5.3 unterstützt nun vollständig die *iSCSI Boot Firmware Table (iBFT)*, was das Starten von iSCSI Geräten ermöglicht. Diese Unterstützung erfordert, dass die iSCSI Platten (Knoten) nicht mehr für einen automatischen Start markiert sind. Das installierte System

wird nicht mehr automatisch verbinden und auf iSCSI Platten einloggen beim Wechsel zum Runlevel 3 oder 5.

iSCSI wird normalerweise für das Root Dateisystem verwendet. In diesem Fall ist diese Änderung unerheblich, denn initrd wird sich mit den nötigen iSCSI Platten verbinden und einloggen, noch bevor ein Wechsel auf Runlevel erfolgt.

Falls jedoch iSCSI Platten bei Nicht-Root Verzeichnissen eingehängt werden müssen, z.B. **/home** or **/srv**, dann wird sich diese Änderung auf Sie auswirken, denn das installierte System wird sich nicht mehr automatisch verbinden und einloggen auf iSCSI Platten, die nicht für das Root Dateisystem verwendet werden.

Das Verwenden von iSCSI Platten, welche an Nicht-Root Dateisysteme angehängt sind, ist zwar noch immer möglich, erfordert aber eine der folgenden provisorischen Lösungen:

1. Installieren Sie das System, ohne dass iSCSI Platten an Nicht-Root Verzeichnisse angehängt sind, und konfigurieren Sie später die erforderlichen Platten und Anhänge-Punkte (?)manuell.
2. Starten Sie das installierte System auf Runlevel 1, und markieren Sie alle iSCSI Platten, die nicht für das Root Dateisystem zum automatischen Starten verwendet werden, indem Sie folgenden Befehl einmal pro Platte ausführen:

   iscsiadm -m node -T *target-name* -p *ip:port* -o update -n node.startup -v automatic

Rhythmbox

Der **rhythmbox** Audio Player wurde aktualisiert auf Version 0.11.6. Diese Aktualisierung bietet die Möglichkeit, proprietäre GStreamer-Plugins zu verwenden.

lftp Aktualisierung

lftp wurde nun grundlegend aktualisiert auf Version 3.7.1. Dies führt zu einigen Upstream-Feature-Aktualisierungen und Bugfixes, einschließlich:

- Eine Sicherheitslücke, die beim Interpretieren von **mirror --script**-generierten Skripten mit **lftp** eine mögliche unauthorisierte Privileg-Eskalation verursachte, wurde nun geschlossen.
- Das Verwenden von **lftp** mit der Option **-c** führt nicht mehr zum Aufhängen von **lftp**.
- **lftp** beschädigt keine Dateien mehr während eines Transfers via **sftp**.

For more information on **lftp** updates applied in this release, refer to http://lftp.yar.ru/news.html.

TTY Input Auditing

TTY Input Auditing wird nun unterstützt. Falls ein Prozess für TTY Input Auditing vorgesehen ist, werden Daten von TTYs gelesen und überprüft. Dies wird auf den Audit Records erscheinen als Typ**TTY**.

Sie können das **pam_tty_audit**-Modul verwenden, um einen Prozess (samt Kindprozessen) für TTY Input Auditing zu kennzeichnen. Für eine Anleitung zur Durchführung, konsultieren Sie die Handbuchseite via **man pam_tty_audit(8)**.

Die TTY Audit Records enthalten die genauen Tastenanschläge die vom überprüften Prozess registriert wurden. Um das Auswerten der Daten zu vereinfachen, überprüft **bash** die genaue

Befehlszeile unter Verwendung des Record-Typs **USER_TTY**.

The "TTY" audit records contain all data read by audited processes from the TTY. This includes data inserted into the input stream by the **TIOCSTI ioctl** system call.

SystemTap Aktualisierung

SystemTap wurde grundlegend aktualisiert auf Version 0.7.2. Diese Aktualisierung führt mehrere kleine Verbesserungen ein, sowie auch einige bedeutende Features. Diese neuen Features beinhalten:

- SystemTap unterstützt nun das symbolische Überprüfen auf x86, x86-64 und PowerPC Architekturen. Dies ermöglicht es SystemTap Scripts, Überprüfungsprozesse in User Space Anwendungen sowie in gemeinsam genutzten Bibliotheken zu platzieren. Infolgedessen kann SystemTap nun das gleiche Level an Debugger Überprüfung bei einigen User Space Anwendungen leisten, wie auch bei der Kernel Überprüfung.

  Wenn beispielsweise **coreutils-debuginfo** installiert ist, können Sie einen Call Graph ausgeben des Befehls **ls** unter Verwendung von **/usr/share/doc/systemtap-*version*/examples/general/callgraph.stp**, wie in:

  ```
  stap para-callgraph.stp 'process("ls").function("*")' -c 'ls -l'
  ```

  Um die Wahrscheinlichkeit einer unentdeckten Abweichung zwischen der Binärdatei und deren Debuginfo RPMs zu verringern, empfiehlt Red Hat die **SYSTEMTAP_DEBUGINFO_PATH** Umgebungsvariable auf den Wert **+:.debug:/usr/lib/debug:build** zu setzen.

  SystemTap's support for symbolic probes also extends to markers placed into the kernel of this release. To use these markers, load the **kernel-trace** kernel module in **/etc/rc.local** (using **modprobe kernel-trace**).
- SystemTap unterstützt auch entfernte (oder remote) Kompilierungsdienste. Dies ermöglicht es einem einzigen Computer im Netzwerk, als ein Debuginfo/Compiler Server für lokale SystemTap Clients zu fungieren. Die Clients lokalisieren automatisch den Server mithilfe von mDNS (**avahi**), und benötigen nur die **systemtap-client**- und **systemtap-runtime**-Pakete zum funktionieren.

  Zur Zeit verwendet dieses Feature keine Sicherheitsmechanismen wie z.B. Verschlüsselung. Daher ist es ratsam, entfernte (oder remote) Kompilierungsdienste nur innerhalb von vertrauenswürdigen Netzwerken zu benutzen. Bitte konsultieren Sie die Handbuchseite via **man stap-server** für weitere Informationen.
- Die Kernel-Aktualisierung für diese Version enthält eine Kernel-API-Erweiterung, die das Beenden von SystemTap-Scripts deutlich verbessert. Diese zusätzliche Kernel-API-Erweiterung beseitigt die unnötige Synchronisation zwischen einzelne Operationen zur Entfernung von Überprüfungsprozessen. Demzufolge werden SystemTab Scripts mit hunderten von Kernel Überprüfungsprozessen nun deutlich schneller abgearbeitet.

  Dies ist insbesondere nützlich für Administratoren, die Scripts mit Überprüfungsprozessen verwenden, welche Wildcards enthalten und daher zahlreiche Kernel Ereignisse festhalten, wie z.B **probe syscall.* {}**.

Für eine umfassende Liste von SystemTap Aktualisierungen in dieser Version, besuchen Sie bitte die folgende URL:

http://sources.redhat.com/git/gitweb.cgi?p=systemtap.git;a=blob_plain;f=NEWS;hb=rhel53

Cluster Manager Aktualisierung

Das Cluster Manager Dienstprogramm (**cman**) wurde aktualisiert auf Version 2.0.97. Diese Aktualisierung enthält mehrere Bugfixes und Verbesserungen, insbesondere:

- **cman** verwendet nun die folgenden Firmware Versionen:APC AOS v3.5.7 und APC rpdu v3.5.6. Das behebt einen Fehler, der *APC 7901* daran hinderte, das "Simple Network Management Protocol" (SNMP) ordnungsgemäß anzuwenden.
- **fence_drac**, **fence_ilo**, **fence_egenera**, und **fence_bladecenter**-Agenten unterstützen nun **ssh**.
- **fence_xvmd**-Schlüsseldateien können nun ohne Neustart neu geladen werden.
- Eine einzige Methode zur Abgrenzung kann nun bis zu 8 Geräte zur Abgrenzung unterstützen.

RPM Aktualisierung

Der **RedHat Package Manager** (RPM) wurde grundlegend aktualisiert auf die Fedora 9 Upstream Version. **rpm** bietet nun sekundäre, architekturspezifische Makro-Dateien auf Multi-Arch Systemen. Außerdem entspricht **rpm** nun allen Zertifizierungs-Kriterien für die Aufnahme in Red Hat Enterprise Linux 5.

Diese Aktualisierung enthält zudem mehrere Upstream Verbesserungen und Bugfixes für **rpm**, einschließlich:

- **rpm** generiert keine unnötigen **.rpmnew** und **.rpmsave**-Dateien mehr auf Multi-Arch-Systemen.
- Ein Fehler in der **rpmgiNext()** Funktion von **rpm** verhinderte ordnungsgemäße Fehlerberichte. In dieser Aktualisierung wird nun die korrekte Semantik für Fehlerberichte angewendet und dadurch sichergestellt, dass **rpm** in jedem Fall den richtigen Exit Code wiedergibt.

Open Fabrics Enterprise Distribution (OFED) / opensm

opensm wurde aktualisiert auf die Upstream Version 3.2, einschließlich einer kleineren Änderung an der opensm Programmbibliothek API.

- Das Format der **opensm.conf**-Datei wurde geändert. Falls Sie individuelle Modifikationen an Ihrem vorhandenen **opensm.conf** vorgenommen hatten, wird RPM automatisch die neue **opensm.conf**-Datei als **/etc/ofed/opensm.conf.rpmnew** installieren. Sie müssen daher Ihre Modifikationen in diese Datei migrieren, und anschließend die vorhandene opensm.conf-Datei mit dem Ergebnis ersetzen.
- Red Hat verfolgt die Code-Basis der Upstream Open Fabrics Enterprise Distribution (OFED), um ein möglichst hohes Level an Funktionalität für diese noch in der Entwicklung begriffende Technologie zu bieten. Infolgedessen kann Red Hat die API/ABI-Kompatibilität nur über Nebenversionen erhalten, in demselben Umfang wie auch das Upstream Projekt. Dies stellt eine Ausnahme dar von der allgemeinen Entwicklungspraktik von Red Hat Enterprise Linux.

  Aus diesem Grund können Applikationen, die über den OFED Stapel (siehe Liste unten) hinaus gebaut wurden, ggf. Rekompilation oder sogar Änderungen auf Ebene des Quellcodes erfordern, wenn von einer Nebenversion von Red Hat Enterprise Linux auf eine neuere gewechselt wird.

  Dies ist im Allgemeinen nicht erforderlich für andere Applikationen, die auf dem Red Hat Enterprise Linux Stapel gebaut wurden. Die betroffenen Komponenten sind:

- dapl
- compat-dapl
- ibsim
- ibutils
- infiniband-diags
- libcxgb3
- libehca
- libibcm
- libibcommon
- libibmad
- libibumad
- libibverbs
- libipathverbs
- libmlx4
- libmthca
- libnes
- librmdacm
- libsdp
- mpi-selector
- mpitests
- mstflint
- mvapich
- mvapich2
- ofed-docs
- openib
- openib-mstflint
- openib-perftest
- openib-tvflash
- openmpi
- opensm
- perftest
- qlvnictools
- qperf
- rds-tools (future)
- srptools
- tvflash

Net-SNMP Aktualisierung

Net-SNMP has been re-based to upstream version 5.3.2.2. This update adds Stream Control Transmission Protocol (SCTP) support (as per RFC 3873, http://www.ietf.org/rfc/rfc3873.txt) and introduces two new configuration options (to be used in **`/etc/snmpd.conf`**):

- **`dontLogTCPWrappersConnects`** — unterdrückt das Protokollieren von Verbindungsversuchen.
- **`v1trapaddress`** — enables administrators to set an agent's IP address inside outgoing

SNMP traps.

Diese Aktualisierung setzt ebenfalls einige von Upstream gelieferte Verbesserungen um, einschließlich:

- Der **snmpd**-Daemon funktioniert nun ordnungsgemäß auf Systemen mit mehr als 255 Netzwerkschnittstellen. Außerdem gibt **snmpd** nun einen Fehler aus, wenn es konfiguriert wird, auf einen Port höher als 65535 zu horchen.
- Eine Race Condition, die dazu führte, dass der **snmpd**-Daemon beim Lesen von **/proc** Dateideskriptoren durchsickern ließ, wurde nun behoben.
- Der **snmpd**-Daemon meldet nun ordnugnsgemäß **hrProcessorLoad** Objekt ID's (OID), selbst auf Multi-CPU Hardware. Beachten Sie jedoch, dass es ab dem Start des Daemons ungefähr eine Minute dauert, die OID-Werte zu berechnen.
- Das **net-snmp-devel**-Paket ist nun abhängig vom **lm_sensors-devel**-Paket.

OpenSSL Aktualisierung für FIPS Zertifikation

Die **openssl**-Pakete aktualisieren die **OpenSSL**-Bibliothek auf eine neuere Upstream Version, welche zur Zeit den "Federal Information Processing Standards" (FIPS-140-2) Validierungs Prozess durchläuft. Der FIPS-Modus ist standardmäßig aktiviert, um die OpenSSL-Bibliothek Feature Parität sowie ABI Kompatibilität zu vorhergehenden Versionen der **openssl**-Pakete in Red Hat Enterprise Linux 5 zu gewährleisten.

Diese Aktualisierung wendet außerdem die folgenden Upstream Fixes an:

- Standardmäßig wird die **zlib**-Komprimierung für SSL und TLS Verbindungen verwendet. Auf *IBM System z* Architekturen mit "Central Processor Assist for Cryptographic Function" (CPACF) wurde die Komprimierung zu einem großem Teil der CPU-Auslastung, und die Gesamtleistung wurde bestimmt durch die Geschwindigkeit der Komprimierung (nicht durch die Geschwindigkeit der Verschlüsselung). Wenn die Komprimierung deaktiviert wird, ist die Gesamtleistung sehr viel höher. In diesen aktualisierten Paketen kann die **zlib**-Komprimierung für SSL und TLS Verbindungen deaktiviert werden mithilfe der **OPENSSL_NO_DEFAULT_ZLIB** Umgebungsvariablen. Für TLS Verbindungen über ein langsames Netzwerk ist es besser, die Komprimierung aktiviert zu lassen, so dass die zu transferierende Datenmenge geringer ist.
- Beim Verwenden des **openssl**-Befehls mit den **s_client** und **s_server** Optionen wurde die Standard CA Zertifikat-Datei (**/etc/pki/tls/certs/ca-bundle.crt**) nicht gelesen. Dies führte zum Scheitern der Verifizierung von Zertifikaten. Damit Zertifikate die Verifizierung bestehen, musste die **-CAfile /etc/pki/tls/certs/ca-bundle.crt** Option angewendet werden. In diesen aktualisierten Paketen wird die Standard CA Zertifikat-Datei nun gelesen, und muss nicht mehr mit der **-CAfile** Option manuell angegeben werden.

yum Aktualisierung

yum wurde grundlegend aktualisiert auf die Upstream Version 3.2.18. Diese Aktualisierung verbessert die Geschwindigkeit, mit der **yum** ausgeführt wird, wodurch Probleme aufgrund der ständig wachsenden Anzahl von Paketen in jeder Nebenversion gemindert werden. Zudem führt diese Aktualisierung auch den reinstall-Befehl ein, verbessert die Schnittstelle für mehrere Befehle, und enthält einige Bugfixes, einschließlich:

- Jeglicher yum-Befehlt scheiterte bislang, wenn die **-c**-Option benutzt wurde zum Angeben einer Konfigurations-Datei, die sich an einer Web-Adresse (http) befand. Dieser Fehler

wurde nun behoben.

- Eine **`checkSignal()`**-Funktion in **yum** rief eine fehlerhafte Beenden-Funktion auf; daher resultierte ein Beenden von yum stattdessen in einem Traceback. In dieser Version beendet yum nun ordnungsgemäß.

Flash-Plugin Aktualisierung

Das **`flash-plugin`**-Paket wurde grundlegend aktualisiert auf die Version 10.0.12.36. Diese Aktualisierung wendet mehrere Sicherheitsfixes an, die in einer vorhergehenden **`flash-plugin`** ASYNC Aktualisierung enthalten waren. Außerdem enthält dieses aktualisierte Plugin den **Adobe Flash Player 10**, der seinerseits folgende Bugfixes und Feature-Verbesserungen enthält:

- Verbesserte Stabilität auf der Linux Plattform durch die Beseitigung einer Race Condition in der Audio-Ausgabe.
- Neue Unterstützung für individuell angepasste Filter und Effekte, native 3D Transformationen und Animationen, erweiterte Audio Verarbeitung, eine neue, flexiblere Text Engine, und PGU Hardware Beschleunigung.

Für weitere Informationen über diese Aktualisierung, lesen Sie bitte die **Adobe Flash Player 10** Release Notes unter dem folgenden Link:

http://www.adobe.com/support/documentation/en/flashplayer/10/Flash_Player_10_Release_Notes.pdf

gdb Aktualisierung

gdb wurde nun grundlegend aktualisiert auf Version 6.8. Dies wendet mehrere Upstream Feature Aktualisierungen und Bugfixes an, insbesondere: Unterstützung für Haltepunkte in **C++** Vorlagen, Konstruktoren und Inline-Funktionen.

For more information on **gdb** updates applied in this release, refer to http://sourceware.org/cgi-bin/cvsweb.cgi/src/gdb/NEWS?rev=1.259.2.1&cvsroot=src.

Instruction Based Sampling auf AMD Family10h Prozessoren

Unterstützung von Hardwareprofilen für AMD Family 10h Prozessoren wurde zu Red Hat Enterprise Linux 5.3 hinzugefügt. Diese neuen AMD CPU's unterstützen "Instruction Based Sampling" (IBS). IBS-Unterstützung erfordert Änderungen am oProfile-Treiber, damit diese Informationen gesammelt und die Model Specific Registers (MSRs) initialisiert werden, welche mit diesen neuen Features zusammenhängen.

Diese Aktualisierung fügt die neuen **`IBS_FETCH`** und **`IBS_OP`** Profiling Samples zu den Puffern pro CPU sowie den Ereignispuffern des oProfile-Treibers hinzu. Neue Kontrolleinträge wurden ebenfalls hinzugefügt zu **`/dev/oprofile`**, um IBS Sampling zu steuern. Diese Änderungen sind rückwärtskompatibel mit vorhergehenden nur-PMC Versionen des Treibers, und ein separates Patch ist verfügbar für oProfile 0.9.3, um diese neuen Daten zu nutzen.

Für mehr Informationen über IBS, werfen Sie bitte einen Blick auf: Instruction-Based Sampling: A New Performance Analysis Technique for AMD Family 10h Processors, November 19, 2007

Squid Aktualisierung

Squid wurde grundlegend aktualisiert auf die letzte stabile Upstream Version (STABLE21). Diese Aktualisierung behebt mehrere Fehler, einschließlich:

- Das Skript **squid** **init** gab stets fälschlicherweise den Exit Code 0 aus. Dieser Fehler ist nun behoben, so dass Squid nun konform geht mit Linux Standard Base.
- Das Verwenden der **refresh_stale_hit**-Direktive führt zu der Fehlermeldung **Clock going backwards** in der **squid**-Protokolldatei.
- Der **squid** Installationsprozess richtete den Besitzer des **/usr/local/squid** Verzeichnisses nicht korrekt ein. In dieser Version ist nun der Benutzer **squid** der standardmäßige Besitzer von **/usr/local/squid**.
- Jedesmal wenn **squid** versucht, die Funktion **hash_lookup()** zu verwenden, kann es ggf. abbrechen mit **signal 6**.
- Das Verwenden von **squid_unix_group** könnte **squid** zum Absturz bringen.

Event Multi-Processing Model in Apache

httpd, das Apache HTTP Server Paket, beinhaltet nun das experimentelle *event* Multi-Processing Model (MPM). Dieses MPM verbessert die Leistung, indem es beim Arbeiten mit Keepalive-Verbindungen fest zugeordnete Threads verwendet.

Libgomp Aktualisierung

libgomp wurde grundlegend aktualisiert auf Version 4.3.2-7.el5. Diese Aktualisierung verbessert die **OpenMP**-Leistung und unterstützt zusätzlich die **OpenMP** Version 3.0 bei der Verwendung mit dem **gcc43**-Compiler.

iSCSI-Ziel Fähigkeiten

Die iSCSI-Ziel Fähigkeit, als Teil des Linux Target (tgt) Frameworks, geht über von Technologievorschau zu voller Unterstützung in Red Hat Enterprise Linux 5.3. Das Linux Target Framework ermöglicht einem System die Freigabe von Block-Level-SCSI-Speichergeräten für andere Systeme, die einen SCSI Initiator besitzen. Diese Fähigkeit wird als erstes als ein Linux-iSCSI-Ziel eingesetzt, so dass Speicher über ein Netzwerk für jeden beliebigen iSCSI-Initiator bereitgestellt wird.

Um das iSCSI-Ziel einzurichten, installieren Sie das scsi-target-utils-RPM und befolgen die Anweisungen in: **/usr/share/doc/scsi-target-utils-*[version]*/README** und **/usr/share/doc/scsi-target-utils-*[version]*/README.iscsi**

4. Driver Updates

4.1. All Architectures

General Driver/Platform Updates

- Der Intel High Definition Audio Treiber in ALSA wurde aktualisiert.
- Die High-Definition Multimedia Interface (HDMI) Audio Unterstützung auf AMD ATI integrierten Chipsätzen wurde aktualisiert.
- Die folgenden Wacom Grafiktabletts werden jetzt durch den Treiber **linuxwacom** unterstützt:
  - Cintiq 20WSX
  - Intuos3 4x6

- Der Treiber **lpfc** für Emulex Fibre Channel Host Bus Adapter wurde aktualisiert auf Version 8.2.0.33.2p. Dies wendet einige Upstream-Änderungen an, insbesondere:
  - Der NETLINK_SCSITRANSPORT Socket wird nun verwendet.
  - Nicht initialisierter Knoten-Zugriff behoben.
  - Fehler behoben, der ein Scheitern des Echotests bei aktiviertem NPIV verursachte.
  - **fcauthd** 1.19 ist nun erforderlich für Fibre Channel Authentifikation.
- **dm-multipath** verfügt nun über Inbox-Unterstützung für IBM DS4000.
- Der Treiber **ixgbe** unterstützt nun den *82598AT* Dual Port Adapter sowie den *82598 CX4* Adapter.
- der Treiber **jsm** wurde aktualisiert, und unterstützt nun **Digi Neo PCI Express 4 HiProfile** I/O Adapter.
- *hp-ilo*: Treiber hinzugefügt, unterstützt nun HP Integrated Lights Out (iLO) Technologie.
- Der Treiber **radeon_tp** wird in dieser Version nun vollständig unterstützt. Dieser Treiber unterstützt die *ATI R500/R600* Chipsätze.

  Zusätzlich besitzt der Treiber die folgenden Fähigkeiten:
  - Setzen des Modus auf *R500/R600* Chipsätzen
  - 2D-Beschleunigung auf *R500* Chipsätzen
  - Shadow-Framebuffer-Beschleunigung auf *R600* Chipsätzen
- Der Treiber **powernow-k8** ist in dieser Version als ladbares Modul enthalten. Dadurch wird gewährleistet, dass vorhandene Treiber Frameworks (wie der *Red Hat Driver Update Model* und *Dell DKMS*) den Benutzern **powernow-k8** Treiber-Aktualisierungen als RPM Pakete zur Verfügung stellen kann, ohne dass diese ihren Kernel aktualisieren müssen.
- In dieser Version fügt Red Hat wieder den Treiber **pnm2ppa** ein, um veraltete Drucker zu unterstützen. Beachten Sie jedoch, dass diese Unterstützung veraltet ist, und in zukünftigen Hauptversionen nicht fortgeführt werden wird.
- Der Treiber **ccid** wurde von Grund auf neu konzipiert, um zusätzlich USB Smartcard Tastaturen zu unterstützen.
- der Treiber **uvcvideo** für USB Video Geräte wurde in Red Hat Enterprise Linux 5.3 dem Kernel hinzugefügt.

Network

- Der Treiber **bnx2** für die Broadcom NetXtreme II Netzwerkkarten wurde aktualisiert auf Version 1.7.9. Dieses Update korrigiert die Optionen des Ethernet-Ringpuffers bei Kontrollern, welche **bnx2** nutzen zur Behebung eines Bugs, der zu einem Panic beim Start führte.
- Der Treiber **e1000e** für Intel PRO/1000 Ethernet Geräte wurde aktualisiert auf die Upstream Version 0.3.3.3-k2. Durch diese Aktualisierung sind nun EEPROM und NVM von unterstützten Geräten schreibgeschützt.
- **igb**: Treiber für Intel Gigabit Ethernet Adapter wurde aktualisiert auf Version 1.2.45-k2, um nun auf 82576 basierende Geräte zu unterstützen.
- der Treiber **ixgbe** für Intel(R) 10 Gigabit PCI Express Netzwerk Geräte wurde aktualisiert auf Version 1.3.18-k4.
- der Treiber **niu** wurde zu Red Hat Enterprise Linux 5.3 hinzugefügt, und unterstützt nun 10Gbps Ethernet Geräte auf Sun CP3220 Systemen.
- Der Treiber **ipw2100** und **ipw2200** für Intel PRO Wireless Geräte wurde zurück portiert auf Red Hat Enterprise Linux 5.3 vom Linux Kernel 2.6.25.
- der Treiber **bcm43xx** für Broadcom Wireless Geräte wurde zurück portiert auf Red Hat Enterprise Linux 5.3 vom Linux Kernel 2.6.25.
- die Treiber Komponente **ieee80211** für Wireless Geräte wurde zurück portiert auf Red Hat

Enterprise Linux 5.3 vom Linux Kernel 2.6.25.

- der Treiber **zd1211rw** für ZyDas Wireless Geräte wurde aktualisiert, so dass er der letzten non-mac80211 Version von vor Linux 2.6.25 entspricht.
- der Treiber **iwlwifi** wurde aktualisiert auf Version 2.6.26 und bietet nun 802.11n Unterstützung für **iwl4965** Wireless Geräte. Mehrere der in den Treibern der Versionen 2.6.26 und höher enthaltenen Bugfixes sind ebenfalls im zurück portierten Treiber enthalten.
- der Treiber **myri10ge** für Myricom Myri-10G Ethernet Geräte wurde aktualisiert auf die Version 1.3.2-1.269.
- der **netxen**-Treiber für NetXen Netzwerkkarten wurde aktualisiert auf Version 3.4.18.
- Der Treiber **bnx2x** für Broadcom Everest Netzwerkgerätewurde aktualisiert auf Version 1.45.23, um 57711 Hardware zu unterstützen.
- der Treiber **forcedeth-msi** wurde aktualisiert, um einen Fehler zu beheben, der die korrekte Erkennung der Netzwerkverbindung verhinderte.
- der Treiber **ath5k** für Atheros Wireless Geräte wurde zurück portiert auf Red Hat Enterprise Linux 5.3 vom Linux Kernel 2.6.26.
- die Treiber **rt2x00** für Ralink Wireless Geräte wurden zurück portiert auf Red Hat Enterprise Linux 5.3 vom Linux Kernel 2.6.26.
- die Treiber **rtl8180** und **rtl8187** für Realtek Wireless Geräte wurde zurück portiert auf Red Hat Enterprise Linux 5.3 vom Linux Kernel 2.6.26.

Storage

- **3w-xxxx**: Treiber für 3ware SATA RAID Kontroller aktualisiert auf Version 1.26.03. Dies führt zu einigen Upstream-Änderungen, insbesondere:
  - Fehler behoben, der zu Datenverlust führte beim Benutzen einer 3ware Karte der 7000er oder 8000er Serie in einem System mit mehr als 2GB RAM.
  - Anaconda bleibt in 64-bit Architekturen nicht mehr hängen beim Benutzen einer 3ware Karte der 8006er Serie in einem System mit mehr als 4GB RAM.
  - Der irq Handler wird nun freigegeben, wenn **__tw_shutdown()** ausgeführt wird. Dies verhindert eine mögliche Nullzeiger-Dereferenz, falls ein Interrupt beim Herunterfahren gleichzeitig verwendet wurde.
  - Das RCD-Bit zum zwischenspeichern der Mode Page ist nun aktiviert.
  - **ioctl**- und **scsi**-Resets sind nun in serielle Reihenfolge gebracht, so dass sie nicht mehr miteinander kollidieren.
- **3w-9xxx**: Treiber für 3ware SATA RAID Kontroller aktualisiert auf Version 2.26.08. Dies führt zu mehreren Upstream-Änderungen, insbesondere:
  - Der Aufruf **pci_unmap_single()** funktioniert nun fehlerfrei in Systemen mit mehr als 4GB RAM
  - Fehler behoben, der langsame Schreibgeschwindigkeit verursachte.
  - Die Einstellung in der DMA Maske kehrt zurück zu 32-bit, falls 64-bit scheitert.
  - Zusätzliche Unterstützung für 3ware 9690SA SAS Controller Device.
- **megaraid_sas**: Treiber aktualisiert auf Version *4.01-rh1*. Mehrere Bugfixes werden in diesem Update angewendet, einschließlich:
  - **MFI_POLL_TIMEOUT_SECS** beträgt nun 60 Sekunden.
  - Fehler behoben, der zum ständigen Zurücksetzen der Chips und zu Befehl-Timeouts führte aufgrund von Frame Count Calculation.
  - Zusätzliche Unterstützung der *LSI Generation 2 Controller* (0078, 0079).
  - Befehl zum Beenden von DCMD in der Beenden-Routine hinzugefügt, um das Beenden von Firmware zu verbessern.

  - Fehler behoben, der unerwartete Interrupts verursachte im Hardware Linux Treiber.
- der Treiber **qla2xxx** für QLogic Fibre Channel Host Bus Adapter wurde aktualisiert, um Karten vom Typ ISP84XX zu unterstützen.
- der Treiber **ibmvscsi** zum Emulieren von virtuellen SCSI (vSCSI) Geräten wurde aktualisiert, und unterstützt nun virtuelle Bandgeräte.
- **lpfc**: Treiber aktualisiert auf Version 8.2.0.30. Dieses Update enthält mehrere Bugfixes und Verbesserungen, einschließlich:
  - Verbessertes Enhanced Error Handling (EEH) für PCI Adapter in PowerPC Architekturen
  - Größere Anzahl unterstützter virtueller NPIV Ports
  - Verbesserte Treiberlogik zur Steuerung der I/O Queue-Tiefe
  - Zusätzliche Unterstützung für Fibre Channel über Ethernet (FCoE) Adapter
  - Booten vom SAN für neue Hardware wird nun unterstützt
- Der Treiber **cciss** für HP Smart Array Kontroller wurde aktualisiert auf Version 3.6.20-RH2.

5. Kernel-Related Notes

5.1. All Architectures

- **relayfs** hatte bislang eine Größenbeschränkung des Puffers auf 64MB. In dieser Aktualisierung wurde die Beschränkung des Speichers, welcher dem relayfs für "on-memory" Puffer zugewiesen wird, auf 4095 MB erhöht. Dies erlaubt es **SystemTap** und anderen Tracing Tools, die **relayfs** verwenden, mehr Ereignisse zu verfolgen.
- Der Treiber für **Dell Remote Access Controller 4** (DRAC4) war nicht vorhanden. Infolgedessen wurden jegliche virtuellen Geräte des DRAC4 nicht vom Kernel erkannt. In dieser Aktualisierung wurde nun das pata_sil680 Kernel-Modul hinzugefügt, welches die entsprechende Unterstützung bietet und damit das Problem behebt.
- Die Nachrichtenpuffer für die Relay-Schnittstelle wurden nur für bereits aktive CPUs zugewiesen, wenn **relay_open()** aufgerufen wurde. Wenn eine inaktive CPU erst aktiviert wurde, nachdem **relay_open()** bereits aufgerufen wurde, trat infolgedessen ein Kernel Panic auf. In dieser Aktualisierung wird ein neuer Nachrichtenpuffer dynamisch zugewiesen, falls neue CPUs hinzugefügt werden.
- Der Treiber für 8250 basierte serielle Ports wurde aktualisiert, um nun DSR/DTR Hardware Flusskontrolle zu unterstützen.
- Unterstützung für *Dell Wireless Wide Area Network (WWAN)*-Karten wurde zum Kernel hinzugefügt. Folgende Geräte werden jetzt unterstützt:
  - Dell Wireless 5700 Mobile Broadband CDMA/EVDO Mini-Card
  - Dell Wireless 5500 Mobile Broadband HSDPA Mini-Card
  - Dell Wireless 5505 Mobile Broadband HSDPA Mini-Card
  - Dell Wireless 5700 Mobile Broadband CDMA/EVDO ExpressCard
  - Dell Wireless 5510 Mobile Broadband HSDPA ExpressCard
  - Dell Wireless 5700 Mobile Broadband CDMA/EVDO Mini-Card
  - Dell Wireless 5700 Mobile Broadband CDMA/EVDO Mini-Card
  - Dell Wireless 5720
  - Dell Wireless HSDPA 5520
  - Dell Wireless HSDPA 5520
  - Dell Wireless 5520 Voda I Mobile Broadband (3G HSDPA) Mini-Card

- das **thinkpad_acpi** Kernel-Modul wurde aktualisiert, um erweiterte Unterstützung zu bieten für neuere Thinkpad Modelle.
- Der Soft Lockup Detektor kann dahingehend konfiguriert werden, dass ein Kernel Panic ausgelöst wird statt einer Warnmeldung. Dies ermöglicht es dem Benutzer, im Falle eines Soft Lockups einen Crash Speicherauszug zu erstellen und zwecks Fehlersuche zu analysieren.

  Um den Soft Lockup Detektor für die Auslösung eines Kernel Panics zu konfigurieren, setzen Sie den Kernel Parameter **soft_lockup** auf **1**. Dieser Parameter ist standardmäßig eingestellt auf **0**.
- **oprofile** erkannte Prozessoren nicht korrekt, welche auf der Next-Generation Intel Microarchitektur (Nehalem) basieren. Infolgedessen konnte der Systemmonitor nicht verwendet werden, und der Prozessor griff zurück auf den Timer Interrupt. Der Kernel wurde nun aktualisiert, um dieses Problem zu beheben.
- Dem Kernel wurde Unterstützung hinzugefügt für den CPU Power State, C3, auf den Next-Generation Intel Microarchitekturen (Nehalem). Die Möglichkeit, in den C3-Modus einzutreten (auch bekannt als Schlafmodus), verbessert die Energieeffizienz des CPUs im Leerlauf.
- Previously, the **MAX_ARG_PAGES** limit that is set in the kernel was too low, and may have resulted in the following error:

  ```
  execve: Argument list too long
  ```

  In this update, this limit has been increased to 25 percent of the stack size, which resolves this issue.
- **autofs4** Aktualisierungen wurden zurück portiert auf Red Hat Enterprise Linux 5.3 von der Linux Kernel Version 2.6.27.
- Mit Red Hat Enterprise Linux 5.3 besteht nun die Möglichkeit, Speicherauszugdateien an ein abgezweigtes Exemplar einer User Space-Applikation umzuleiten. Dies wird aktiviert, indem ***|path/to/application*** in **/proc/sys/kernel/core_pattern** platziert wird. Bei einem Speicherauszug wird eine Kopie der angegebenen Anwendung ausgeführt, und der Speicherauszug wird umgeleitet nach "stdin". Dies ermöglicht das Umleiten an ein verzweigtes Exemplar.
- Die Datei **/proc/cpuinfo** zeigt nun die ID des Advanced Programmable Interrupt Controllers (APIC) an, der von jedem einzelnen CPU verwendet wird.
- Das Machine Check Exception (MCE) Kernel Subsystem wurde verbessert, um die für neuere Systeme notwendigen, größeren Speicher-Konfigurationen zu unterstützen.
- Der Mount-Befehl unterstützt nun die Kerberos Authentifizierung beim Anhängen eines Dateisystems via Samba. Der **sec=krb5** oder **sec=krb5i** Schalter erlaubt es dem Kernel, eine User Space Anwendung aufzurufen (**cifs.upcall**), welche ein "SPNEGO" (Simple and Protected GSSAPI Negotiation Mechanism) Sicherheits-"Blob" (Binary Large OBject) ausgibt. Der Kernel kann das BLOB zur Authentifikation beim Server verwenden, und das entsprechende Dateisystem einhängen.
- Falls Sie den Kernel Parameter **kernel.unknown_nmi_panic** auf einem System konfiguriert haben, welches die IOAPIC NMI Watchdog Methode verwendet, könnte ein Kernel Panic auftreten. Das rührt daher, dass der NMI Watchdog die Ursache des nicht-maskierbaren Hardwareinterrupts (NMI) nicht sicher deaktivieren konnte.

  In dieser Version wurde der NMI Watchdog Code dahingehend überarbeitet, so dass es Benutzern nun möglich ist, die Ursache des NMIs sicher zu deaktivieren. Daher können Sie nun bedenkenlos den Kernel Parameter **kernel.unknown_nmi_panic** konfigurieren auf Systemen, welche die IOAPIC NMI Watchdog Methode verwenden.

5.2. x86 Architectures

- Der **powernowk8**-Treiber führte keine ausreichende Prüfung der Anzahl der aktiven CPUs durch. Infolgedessen wurde ggf. eine Kernel-Fehlermeldung "oops" beim Start des Treibers ausgegeben. In

dieser Aktualisierung stellt der **powernowk8**-Treiber sicher, dass die Anzahl der unterstützten CPUs (**supported_cpus**) der Anzahl der aktiven CPUs (**num_online_cpus**) entspricht. Dieser Fehler ist damit behoben.

5.3. PowerPC Architectures

- **CPUFreq**, das Kernel Subsystem, welches CPU-Frequenz und -Spannung skaliert, wurde aktualisiert mit verbesserter Unterstützung von Zell Prozessoren. Diese Aktualisierung implementiert einen CPUFreq-Governor, der eine Synergistic Processing Unit (SPU) beherrscht, und damit die Energieverwaltung der Zell Prozessoren verbessert.
- Error Detection and Correction (EDAC) wird nun unterstützt auf der Cell Broadband Engine Architektur in Red Hat Enterprise Linux 5.3. Um EDAC zu aktivieren, verwenden Sie folgenden Befehl: **modprobe cell_edac**

  Um zu kontrollieren, ob dieses Modul Ihrem laufenden Kernel hinzugefügt wurde, überprüfen Sie check /var/log/dmesg auf eine Ausgabe wie die Folgende:

  ```
  EDAC MC: Ver: 2.0.1 Oct  4 2008
  EDAC MC0: Giving out device to cell_edac MIC: DEV cbe-mic
  EDAC MC1: Giving out device to cell_edac MIC: DEV cbe-mic
  ```

  Falls korrigierbare Speicherfehler gefunden werden, wird die folgende Mitteilung auf der Konsole ausgegeben:

  ```
  EDAC MC0: CE page 0xeff, offset 0x5700, grain 0, syndrome 0x51, row 0, channel
  0, label "":
  ```

- Das Debugging mit Hardware Watchpoints unter Verwendung einer Variablen, welche gemeinsam benutzt wurde von mehreren Threads, führte beim GNU Debugger (**GDB**) dazu, dass unregelmäßig Trigger-Ereignisse ausgelassen wurden. Der Kernel wurde aktualisiert, so dass **GDB** nun lückenlos die Watchpoint-Trigger empfängt, wodurch die Zuverlässigkeit des Debuggings verbessert wurde.

5.4. x86_64 Architectures

- **kprobe-booster** wird nun auf ia64 und x86_64 Architekturen unterstützt, was dem Benutzer erlaubt, Kernel Ereignisse sehr viel schneller zu überprüfen. Dieses Feature verringert außerdem den durch Überprüfungstools (d.h. SystemTap und Kprobes) verursachten Overhead auf Servern, die auf 64-bit Architekturen laufen.
- Unterstützung für die Objekte **_PTC** (Processor Throttling Control), **_TSS** (Throttling Supported States) und **_TPC** (Throttling Present Capabilities) wurde dem Kernel hinzugefügt. Diese Unterstützung, die Teil ist der Advance Configuration and Power Interface specification (ACPI), bietet verbesserte Handhabung des Prozessor Throttlings.

5.5. s390x Architectures

- In zipl.conf, parameters enclosed with double quotes inside of single quotes (ie **parameters='vmhalt="LOGOFF"'**) were being parsed incorrectly. Consequently, installing the kernel-kdump package may have failed, resulting in the error:

  ```
  grubby fatal error: unable to find a suitable template
  ```

  To resolve this issue, parameters should be enclosed with single quotes inside of double quotes (ie **parameters="vmhalt='LOGOFF'"**)

Anmerkung

Die Syntax-Struktur von einfachen Anführungszeichen innerhalb von doppelten Anführungszeichen ist Standard in Red Hat Enterprise Linux 5.

5.6. ia64 Architecture

- Der Dual-Core Intel Itanium 2 Prozessor schrieb die Machine Check Architecture (MCA) Einträge anders als vorhergehende Intel Itanium Prozessoren. Die Ziel-Identifier zur Überprüfung des Zwischenspeichers und des Bus können nun unter Umständen anders sein. Der Kernel wurde aktualisiert, um den richtigen Ziel-Identifier zu finden.
- **kprobe-booster** wird nun auf ia64 und x86_64 Architekturen unterstützt, was dem Benutzer erlaubt, Kernel Ereignisse sehr viel schneller zu überprüfen. Dieses Feature verringert außerdem den durch Überprüfungstools (d.h. SystemTap und Kprobes) verursachten Overhead auf Servern, die auf 64-bit Architekturen laufen.
- In dieser Aktualisierung wurde Unterstützung von **pselect()** und **ppoll()** Systemaufrufen dem Kernel hinzugefügt.

6. Virtualization

This section contains information about updates made to Red Hat Enterprise Linux suite of Virtualization tools.

6.1. Feature Updates

- Das blktap (blocktap) Userspace-Toolkit wurde aktualisiert und bietet die Funktionalität zur Beobachtung der Transferstatistiken von durch blktap gestützten virtualisierten Gästen.
- Support für das Intel Extended Page Table (EPT) Feature wurde hinzugefügt, wodurch die Performance vollständig virtualisierter Gäste auf EPT unterstützender Hardware verbessert wurde.
- Die **e1000**-Netzwerkgerätemulation wurde diesem Update hinzugefügt, die nur Windows 2003 Gäste auf der ia64 Architektur unterstützt. Zur Verwendung der e1000 Emulation, muss der xm-Befehl verwendet werden.
- Treiber für **virtio**, die Plattform für I/O-Virtualisierung in KVM, wurden zu Red Hat Enterprise Linux 5.3 von Linux Kernel 2.6.27 backportiert. Diese Treiber ermöglichen es KVM-Gästen, eine höhere Ebene von I/O-Performance zu erreichen. Verschiedene Userspace-Komponenten wie: **anaconda**, **kudzu**, **lvm**, **selinux** und **mkinitrd** wurden ebenfalls aktualisiert, um Support für virtio Geräte zu liefern.
- Der native Linux Kernel unterstützt **vmcoreinfo** automatisch, um aber kdump in dom0-Domains zu erstellen, wurde das **kernel-xen-debuginfo**-Paket benötigt. In dieser Release wurden Kernel und Hypervisor bearbeitet und unterstützen jetzt vmcoreinfo Reading und kdump Writing. Benutzer, die kdump zum Debugging oder anderen Nachforschungen auf dom0-Domains benötigen können dies jetzt ohne **debuginfo** oder **debuginfo-common**-Pakete tun.
- Bei vollständig virtualisierte Red Hat Enterprise Linux 5 Gäste hatten keine optimale Performance bei der Verwendung von emulierten Disk und Netzwerkgeräten. Dieses Update enthält das kmod-xenpv-Paket zur Vereinfachung der Verwendung paravirtualisierter Disks und Netzwerke in vollständig virtualisierten Gästen.

  Die Verwendung dieser Treiber bei vollständig virtualiserten Gästen kann die Performance und Funktionalität signifikant verbessern. Für Netfront- und Blockfront-Treiber vorgenommene Fehlerbehebungen werden sofort realisiert und mit dem Kernelpaket synchronisiert.

- Gäste haben jetzt die Möglichkeit auf die 2MB Backing Page Speichertabellen zuzugreifen, die die Performance des Systems verbessern.

6.2. Resolved Issues

6.2.1. All Architectures

- Das Abschalten eines paravirtualisierten Gastes konnte dazu führen, dass dom0 für eine bestimmte Zeit nicht mehr reagierte. Es kam zu einem Zeitverzug von mehreren Sekunden bei Gästen mit viel Speicherauslastung (d.h. 12GB und darüber). In diesem Update gestattet der virtualisierte Kernel die Abschaltung eines großen eines paravirtualisierten Gastes entziehbar (preemptible) zu sein, wodurch dieses Problem gelöst wird.
- **crash** was unable to read the relocation address of the hypervisor from a vmcore file. Consequently, opening a Virtualized kernel vmcore file with crash would fail, resulting in the error:

  ```
  crash: cannot resolve "idle_pg_table_4"
  ```

  In this update, the hypervisor now saves the address correctly, which resolves this issue.
- Paravirtualisierte Gäste konnten ehemals maximal 16 Geräte besitzen. In diesem Update wurde das Maximum auf 256 Disk-Geräte erhöht.
- Für den kdump-Kernel reservierter Speicher war inkorrekt, wodurch es zu unbrauchbaren Crash-Dumps kam. In diesem Update ist die Speicherreservierung korrekt, so dass korrekte Crash-Dumps generiert werden.
- Das Anhängen einer Disk mit einem bestimmten Namen (d.h. **/dev/xvdaa**, **/dev/xvdab**, **/dev/xvdbc** usw.) an einen paravirtualisierten Gast führte zu einem korrumpierten **/dev**-Gerät innerhalb des Gastes. Dieses Update löst dieses Problem, so dass das Anhängen von Disks mit diesen Namen an einen paravirtualisierten Gast ein ordnungsgemäßes **/dev**-Gerät innerhalb des Gastes erstellt.
- Die Anzahl der Loopback-Geräte war ehemals auf 4 beschränkt. In folge war der Bau von Brücken auf Systemen mit mehr als 4 Netzwerk-Interfaces eingeschränkt. In diesem Update erstellt der **netloop**-Treiber jetzt wie benötigt zusätzliche Loopback-Geräte.
- Beim Erstellen und Auflösen von Netzwerkgeräten kam es zu einer Wettlaufsituation. In einigen Fällen — insbesondere bei hoher Auslastung — führte dies dazu, dass das virtuelle Gerät nicht antwortete. In diesem Update wird der Status des virtuellen Geräts geprüft, so dass das Auftreten einer Wettlaufsituation verhindert wird.
- Es kam zu einem Speicherleck in **virt-manager**, wenn die Anwendung laufen gelassen wurde. In Folge verbrauchte die Anwendung mehr Ressourcen, was zu einem dramatischen Speicherverlust führen konnte. In diesem Update wurde das Speicherleck behoben und dieses Problem gelöst.
- the **crash** utility could not analyze **x86_64** vmcores from systems running **kernel-xen** because the Red Hat Enterprise Linux hypervisor was relocatable and the relocated physical base address is not passed in the vmcore file's ELF header. The new **--xen_phys_start** command line option for the crash utility allows the user to pass crash the relocated base physical address.
- Nicht alles Mausereignisse wurden durch **Paravirtual Frame Buffer (PVFB)** festgehalten und verarbeitet. Das Scroll-Rädchen funktionierte daher nicht bei der Interaktion mit einem paravirtualisierten Gast mit der **Virtual Machine Console**. In diesem Update ist dieses Problem behoben.
- Die Verwendung von Virtualisierung mit einer großen Anzahl von CPUs konnte zum Absturz des Hypervisor während der Gastinstallation führen. In diesem Update wurde das Problem behoben.
- Bei Intel Prozessoren, die einen *CPUID* Family-Value von 6 widergeben, war nur ein Performance-Counter-Register in **kernel-xen** aktiviert. Deshalb lieferte nur Counter 0 Samples. In diesem

Update wurde dieses Problem behoben.

6.2.2. x86 Architectures

- On systems with newer CPU's, the CPU APIC ID differs from the CPU ID. Consequently, the virtualized kernel was unable to initialize CPU frequency scaling. In this update, the virtualized kernel now retrieves CPU APIC ID from the hypervisor, allowing CPU frequency scaling to be initialized properly.
- Lief ein x86 paravirtualisierter Gast und ein Vorgang griff auf ungültigen Speicher zu, so lief ein Loop statt das ein SEGV-Signal eingeholt wurde. Dies führte zu einem Fehler bei der Überprüfung der execshield unter dem Hypervisor. In diesem Update wurde das Problem behoben.

6.2.3. ia64 Architecture

- A **`xend`** bug that previously caused guest installation failures is now fixed.
- Beim **`evtchn`**-Ereignis Kanalgerät (Event Channel Device) fehlten Sperren und Speicherbarrieren. Dies führte dazu, dass **`xenstore`** nicht mehr reagierte. In diesem Update wurde das Problem behoben.
- Non-Uniform Memory Access (NUMA) Informationen wurden nicht mit dem **`xm info`**-Befehl angezeigt. In Folge wurde der **`node_to_cpu`**-Wert für jeden Node inkorrekt als **`no cpus`** widergegeben. In diesem Update wurde das Problem behoben.
- Das Erstellen eines Gastes auf einer Hardware Virtual Machine (HVM) schlug ehemals bei VT-i2 Technologie verwendenden Prozessoren fehl. Mit diesem Update ist dieses Problem behoben.

6.2.4. x86_64 Architectures

- Waren die für virtuelle Maschinen von Gästen verfügbaren Dynamic IRQs ausgeschöpft, so crashte der **`dom0`**-Kernel. In diesem Update wurde das Problem behoben, und die ANzahl verfügbarer IRQs wurde erhöht.
- On systems with newer CPU's, the CPU APIC ID differs from the CPU ID. Consequently, the virtualized kernel was unable to initialize CPU frequency scaling. In this update, the virtualized kernel now retrieves CPU APIC ID from the hypervisor, allowing CPU frequency scaling to be initialized properly.

6.3. Known Issues

6.3.1. All Architectures

- Auf Medien im Diskettenlaufwerk kann bei Verwendung des virtualisierten Kernels nicht zugegriffen werden. Um dieses Problem zu umgehen, verwenden Sie ein USB-angehängtes Diskettenlaufwerk.

  Medien im Diskettenlaufwerk funktionieren problemlos mit anderen nicht-virtualisierten Kernels.
- In live migrations of paravirtualized guests, time-dependent guest processes may function improperly if the corresponding hosts' (dom0) times are not synchronized. Use NTP to synchronize system times for all corresponding hosts before migration.
- Wird ein paravirtualisierter Gast wiederholt zwischen zwei Hosts migriert, kann ein Host ggf. mit einem Panic abstürzen. Wird ein Host neu gebootet, nachdem ein Gast aus dem System heraus migriert wurde und bevor er erneut auf denselben Gast migriert wird, tritt dieser Panic nicht auf.
- Das Formattieren einer Disk als Gast während **Windows 2008** oder **Windows Vista** läuft kann zum Absturz führen, wenn der Gast mit mehreren virtuellen CPUs gebootet hat. Um dies zu vermeiden, booten Sie den Gast beim Formattieren mit einer einzelnen virtuellen CPU.
- Vollständig virtualisierte und durch **`virt-manager`** erstellte Gäste hindern die Maus manchmal

daran sich frei über den Bildschirm hinweg zu bewegen. Verwenden Sie **virt-manager** um dies zu umgehen und eine USB Tablet-Gerät für den Gast zu konfigurieren.

- Die maximalen CPUs müssen auf weniger als 128 beschränkt werden, wenn auf einem 128 oder größeren CPU-System. Das derzeit unterstützte Maximum liegt bei 126. Verwenden Sie das **maxcpus=126**-Hypervisor Argument, um den Hypervisor auf 126 zu beschränken.
- Vollständig virtualisierte Gäste können durch Domain pause/unpause bedingte Zeitverluste nicht korrigieren. Es gehört zu den Vorteilen paravirtualisierter Kernels, dass die Zeit bei pause/unpause Vorgängen verfolgt werden kann. Dieses Problem wird Upstream mit ersetzbaren Timern angesprochen, so dass vollständig virtualisierte Gäste paravirtualisierte Timer besitzen. Zum derzeitigen Zeitpunkt befindet sich dieser Code in Entwicklung Upstream und sollte in späteren Versionen von Red Hat Enterprise Linux verfügbar sein.
- Wiederholte Migration paravirtualisierter Gäste kann zu **bad mpa**-Meldungen auf der **dom0**-Konsole führen. In einigen Fällen kann es auch zu einer Panik des Hypervisors kommen.

  Um eine Hypervisor Kernel-Panik zu vermeiden, starten Sie die migrierten Gäste nachdem die negativen mpa-Nachrichten erscheinen erneut.
- Beim Einstellen des Interface-Bonding auf **dom0** kann es vorkommen, dass das Standard **network-bridge**-Skript dazu führt, dass Netzwerk-Interfaces aletrnierend zwischen **unavailable** und **available** wechseln. Dieser Vorgang wird als *flapping* bezeichnet.

  Um dem vorzubeugen ersetzen Sie die standardmäßige **network-script**-Zeile in **/etc/xen/xend-config.sxp** durch folgende Zeile:

  ```
  (network-script network-bridge-bonding netdev=bond0)
  ```

  Hierdurch wird das *netloop*-Gerät deaktiviert, wodurch verhindert wird, dass das Address Resolution Protocol (ARP) Monitoring während des Adressentransfervorgangs (address transfer process) fehlschlägt.
- When running multiple guest domains, guest networking may temporarily stop working, resulting in the following error being reported in the dom0 logs:

  ```
  Memory squeeze in netback driver
  ```

  To work around this, raise the amount of memory available to the dom0 with the **dom0_mem** hypervisor command line option.

6.3.2. x86 Architectures

- Migrating paravirtualized guests through **xm migrate *[domain] [dom0 IP address]*** does not work.
- When installing Red Hat Enterprise Linux 5 on a fully virtualized SMP guest, the installation may freeze. This can occur when the host (**dom0**) is running Red Hat Enterprise Linux 5.2.

  Stellen Sie den Gast so ein, dass er nur einen Prozessor während der Installation verwendet. Dies können Sie mit der Option **--vcpus=1** in **virt-install** tun. Sobald die Installation abgeschlossen ist, können Sie den Gast auf SMP setzen, indem Sie die zugewiesenen **vcpus** in **virt-manager** anpassen.

6.3.3. x86_64 Architectures

- Migrating paravirtualized guests through **xm migrate *[domain] [dom0 IP address]*** does not work.
- Installing the Virtualization feature may cause a **time went backwards** warning on HP systems

with model numbers xw9300 and xw9400.

Um dieses Problem auf xw9400-Maschinen zu umgehen, aktivieren Sie in den BIOS-Einstellungen den **HPET**-Timer. Beachten Sie, dass diese Option für xw9300-Maschinen nicht zur Verfügung steht.

- Installing Red Hat Enterprise Linux 3.9 on a fully virtualized guest may be extremely slow. In addition, booting up the guest after installation may result in **hda: lost interrupt** errors.

  Um diesen Bootup-Fehler zu vermeiden, konfigurieren Sie den Gast so, dass er den SMP-Kernel verwendet.
- Upgrading a host (**dom0**) system to Red Hat Enterprise Linux 5.2 may render existing Red Hat Enterprise Linux 4.5 SMP paravirtualized guests unbootable. This is more likely to occur when the host system has more than 4GB of RAM.

  Booten Sie als provisorische Lösung jeden Red Hat Enterprise Linux 4.5 Gast in Single-CPU-Modus und aktualisieren dessen Kernel auf die aktuellste Version (für Red Hat Enterprise Linux 4.5.z).

6.3.4. ia64 Architecture

- Migrating paravirtualized guests through **xm migrate *[domain] [dom0 IP address]*** does not work.
- On some *Itanium* systems configured for console output to VGA, the **dom0** virtualized kernel may fail to boot. This is because the virtualized kernel failed to properly detect the default console device from the *Extensible Firmware Interface* (EFI) settings.

  Falls dies auftritt, können Sie, um dies zu umgehen, den Boot-Parameter **console=tty** zu den Kernel-Boot-Optionen in **/boot/efi/elilo.conf** hinzufügen.
- On some *Itanium* systems (such as the *Hitachi Cold Fusion 3e*), the serial port cannot be detected in **dom0** when VGA is enabled by the EFI Maintenance Manager. As such, you need to supply the following serial port information to the **dom0** kernel:
  - Geschwindigkeit in Bits/Sekunde
  - Anzahl der Daten-Bits
  - Parität
  - **io_base**-Adresse

  Diese Details müssen in der Zeile **append=** des **dom0**-Kernels in **/boot/efi/elilo.conf** angegeben werden. Zum Beispiel:

  ```
  append="com1=19200,8n1,0x3f8 -- quiet rhgb console=tty0
  console=ttyS0,19200n8"
  ```

  In diesem Beispiel ist **com1** der serielle Port, **19200** die Geschwindigkeit (in Bits/Sekunde), **8n1** gibt die Einstellungen bezüglich der Anzahl der Daten-Bits/Parität an und **0x3f8** ist die **io_base**-Adresse.
- Virtualization does not work on some architectures that use Non-Uniform Memory Access (NUMA). As such, installing the virtualized kernel on systems that use NUMA will result in a boot failure.

  Einige Installationsnummern installieren den virtualisierten Kernel standardmäßig. Falls Sie eine solche Installationsnummer besitzen und Ihr System NUMA verwendet und nicht mit kernel-xen arbeitet, wählen Sie die Virtualisierungsoption während der Installation nicht aus.
- Currently, live migration of fully virtualized guests is not supported on this architecture. In addition, **kexec** and **kdump** are also not supported for virtualization on this architecture.

7. Technology Previews

Technology Preview features are currently *not* supported under Red Hat Enterprise Linux subscription services, may not be functionally complete, and are generally not suitable for production use. However,

these features are included as a customer convenience and to provide the feature with wider exposure.

Customers may find these features useful in a non-production environment. Customers are also free to provide feedback and functionality suggestions for a Technology Preview feature before it becomes fully supported. Erratas will be provided for high-severity security issues.

During the development of a Technology Preview feature, additional components may become available to the public for testing. It is the intention of Red Hat to fully support Technology Preview features in a future release.

ALUA-Modus auf *EMC Clariion*

Der explizite aktiv-passiv Failover-Modus (ALUA) unter Verwendung von **`dm-multipath`** auf *EMC Clariion* Speichergeräten wird nun unterstützt. Dieser Modus wird als T10-Spezifikation zur Verfügung gestellt, jedoch nur als eine Technologievorschau in diesem Release.

For more information about T10, refer to http://www.t10.org.

`ext4`

Die neueste Generation des ext-Dateisystems **`ext4`** ist in dieser Release als Technologievorschau verfügbar. **`Ext4`** ist eine schrittweise Verbesserung des von Red Hat und der Linux Community entwickelten **`ext3`**-Dateisystems. Der Release-Name des Dateisystems für die Technologievorschau lautet **`ext4dev`**.

Das Dateisystem wird durch das **`ext4dev.ko`**-Kernelmodul und ein neues **`e4fsprogs`**-Paket, das aktualisierte Versionen der bekannten e2fsprogs Administrationstools zur Verwendung mit ext4 enthält, bereitgestellt. Um dies zu verwenden, installieren Sie **`e4fsprogs`** und verwenden Sie dann Befehle wie **`mkfs.ext4dev`** aus dem e4fsprogs-Programm zur Erstellung eines ext4-base Dateisystems. Beim Bezug auf das Dateisystem bei einer Einhänge-Befehlszeile oder fstab-Datei verwenden Sie den Dateisystemnamen **`ext4dev`**.

FreeIPMI

FreeIPMI ist nun als Technologievorschau Bestandteil dieser Aktualisierung. FreeIPMI ist eine Sammlung von Intelligent Platform Management IPMI System-Software. Es bietet In-Band- und Out-Of-Band-Software, parallel zur Entwicklungsbibliothek, die mit den Intelligent Platform Management Interface (IPMI v1.5 and v2.0) Standards übereinstimmt.

For more information about FreeIPMI, refer to http://www.gnu.org/software/freeipmi/

TrouSerS und tpm-tools

TrouSerS und **`tpm-tools`** sind in diesem Release enthalten, um die Verwendung von *Trusted Platform Module* (TPM) Hardware zu ermöglichen. TPM-Hardware-Features umfassen (neben anderen):

- Sicheres Erstellen, Speichern und Verwenden von RSA-Schlüsseln (ohne dass diese im Speicher dargelegt werden)
- Verifizierung des Software-Status einer Plattform unter Verwendung kryptografischer Hashes

TrouSerS ist eine Implementierung der Trusted Computing Group's Software Stack (TSS) Specification. Sie können TrouSerS dazu verwenden, Applikationen zu schreiben, die TPM-Hardware nutyen. **`tpm-tools`** ist ein Satz von Tools zur Verwaltung und Nutzung von TPM-Hardware.

For more information about TrouSerS, refer to http://trousers.sourceforge.net/.

eCryptfs

eCryptfs ist ein gestapeltes kryptografisches Dateisystem für Linux. Es wird in individuellen Verzeichnissen in bereits eingehängten, untergeordneten Dateisystemen wie EXT3 eingehängt. Die vorhandenen Partitionen oder Dateisysteme müssen nicht geändert werden, um mit der Verwendung von **eCryptfs** zu beginnen.

Mit dieser Release basiert **eCryptfs** nun auf Upstream Version 56, die mehrere Fehlerbehebungen und Verbesserungen bietet. Au-erdem liefert dieses Update ein grafisches Programm, das bei der Konfiguration von **eCryptfs** (**ecryptfs-mount-helper-gui**) hilft.

Dieses Update ändert auch die Syntax bestimmter **eCryptfs**/Einhängeoptionen. Falls Sie sich dafür entscheiden, dies zu dieser Version von **eCryptfs** zu aktualisieren, so sollten Sie alle betroffenen Einhängeskripte und **/etc/fstab**-Einträge aktualisieren. Informationen zu diesen Änderungen finden Sie unter **man ecryptfs**.

Folgende Warnhinweise gelten für diese Release von **eCryptfs**:

- Beachten Sie, dass das **eCryptfs**Dateisystem nur dann ordnungsgemäß funktioniert, wenn das verschlüsselte Dateisystem einmal über dem zugrunde liegenden Verzeichnis gleichen Namens eingehängt ist. Zum Beispiel:

  ```
  mount -t ecryptfs /mnt/secret /mnt/secret
  ```

  Der gesicherte Teil des Dateisystems sollte nicht offengelegt sein, d.h. nicht an anderen Einhängepunkten (Mount Points), Einbindepunkten (Bind Points) u.ä. eingehängt sein.
- **eCryptfs** hängt an genetzwerkten Dateisystemen ein (z.B. NFS, Samba), funktioniert nicht ordnungsgemäß.
- Diese Version des **eCryptfs**-Kerneltreibers benötigt aktualisierten Userspace, der durch **ecryptfs-utils-56-4.el5** oder neuer bereitgestellt wird.

For more information about **eCryptfs**, refer to http://ecryptfs.sf.net. You can also refer to http://ecryptfs.sourceforge.net/README and http://ecryptfs.sourceforge.net/ecryptfs-faq.html for basic setup information.

Stateless-Linux

Stateless-Linux ist eine neue Denkweise, wie ein System betrieben und verwaltet werden soll. Es ist dafür gedacht, die Versorgung und das Management einer großen Anzahl von Systemen zu vereinfachen, indem diese leicht austauschbar sind. Dies wird in erster Linie durch die Herstellung präparierter System-Images erreicht, die repliziert und über eine große Anzahl von zustandlosen (stateless) Systemen mit einem Betriebssystem in einem read-only-Status hinweg verwaltet werden (bitte werfen Sie einen Blick auf **/etc/sysconfig/readonly-root** für weitere Einzelheiten).

In diesem derzeitigen Entwicklungsstatus sind die Stateless-Features eine Teilmenge der beabsichtigten Ziele. Als solche ist ihre Tauglichkeit derzeit als "Technologievorschau"-Status gekennzeichnet.

Interessenten für das Testen von zustandlosem (stateless) Code, wird dringend empfohlen, die HOWTOs unter http://fedoraproject.org/wiki/StatelessLinux/HOWTO zu lesen und Mitglied der Liste stateless-list@redhat.com zu werden.

Die ersten Bestandteile, die Stateless Linux ermöglichten, wurden ursprünglich in Red Hat Enterprise Linux 5 eingeführt.

AIGLX

AIGLX ist ein Technologievorschau-Feature des ansonsten komplett unterstützten X-Servers. Es hat die Absicht, GL-beschleunigte Effekte auf einem Standard-Desktop zu aktivieren. Das Projekt besteht aus den folgenden Komponenten:

- Ein geringfügig modifizierter X-Server.
- Ein aktualisiertes Mesa-Paket, das Support für neue Protokolle hinzufügt.

Wenn Sie diese Komponenten installieren, können Sie GL-beschleunigte Effekte auf Ihrem Desktop mit sehr wenigen Änderungen nutzen. Weiterhin haben Sie die Möglichkeit, diese nach Belieben zu aktivieren, bzw. zu deaktivieren, ohne den X-Server zu ersetzen. AIGLX ermöglicht es außerdem Remote-GLX-Anwendungen, die Vorteile von Hardware-GLX-Beschleunigung zu nutzen.

FireWire

Das Modul **`firewire-sbp2`** wird im Rahmen dieser Aktualisierung weiterhin als Technologievorschau eingebunden. Dieses Modul ermöglicht die Verbindung mit FireWire Speichergeräten und Scannern.

Derzeit unterstützt FireWire Folgendes nicht:

- IPv4
- *pcilynx* Host-Kontroller
- multi-LUN Speichergeräte
- Nicht-exklusiver Zugriff auf Speichergeräte

Zusätzlich bestehen die folgenden Probleme in dieser Version von FireWire weiterhin:

- ein Speicherleck im **`SBP2`**-Treiber kann dazu führen, dass die Maschine nicht mehr antwortet.
- ein Code in dieser Version funktioniert nicht ordnungsgemäß auf "big-endian"-Maschinen. Dies kann zu unerwartetem Verhalten auf PowerPCs führen.

ktune

Diese Release enthält **`ktune`** (aus dem **`ktune`**-Paket), einen Dienst, der mehrere Kernel-Feinabstimmungsparameter auf für bestimmte Systemprofile passende Werte setzt. Derzeit bietet **`ktune`** nur ein Profil für Großspeicher-Systeme, die Disk- und Netzwerk-intensive Anwendungen ausführen.

Die durch **`ktune`** gelieferten Einstellungen setzen diejenigen in **`/etc/sysctl.conf`** oder durch die Kernel-Befehlszeile nicht außer Kraft. **`ktune`** ist möglicherweise für einige Systeme und Arbeitsbelastungen nicht geeignet; testen Sie dies ausgiebig ehe Sie es in der Produktion deployen.

Sie können jeden Konfigurationsatz durch **`ktune`** deaktivieren und zu Ihren regulären Einstellungen zurückkehren, indem Sie einfach den **`ktune`**-Dienst mittels **`service ktune stop`** (als Root) stoppen.

SGPIO Support für dmraid

Serial General Purpose Input Output (SGPIO) ist eine dem Industriestandard entsprechende Kommunikationsmethode, die zwischen einer Hauptplatine (Main Board) und verschiedenen internen und externen Bay Enclosures der Hard Disc Anwendung findet. Diese Methode kann zur Steuerung von LED-Lichtern an einer Enclosure durch das AHCI Treiber-Interface verwendet werden.

In dieser Release ist SGPIO-Support in **dmraid** als Technologievorschau enthalten. Dies gestattet es **dmraid** ordnungsgemäß mit Disk Enclosures zu funktionieren.

GCC 4.3

Die *Gnu Compiler Collection version 4.3 (GCC4.3)* ist jetzt in dieser Release als eine Technologievorschau enthalten. Diese Sammlung von Compilern enthält C, C++ und Fortran 95 Compiler sowie Support-Bibliotheken.

Beachten Sie, dass in den **gcc43**-Paketen der Standard für die **gnu89-inline**-Option zu **-fgnu89-inline** geändert wurde, wobei Upstream und zukünftige Aktualisierungen von Red Hat Enterprise Linux 5 standardmäßig **-fno-gnu89-inline** sein werden. Dies ist notwendig, weil viele als Teil von Red Hat Enterprise Linux 5 vertriebenen Header GNU in-line Semantik statt ISO C99 Semantik erwarten. Diese Headers wurden nicht angepasst, um GNU in-line Semantik durch Attribute anzufordern.

Kernel Tracepoint Facility

In diesem Update wurde ein neuer Kernel Marker/Tracepoint Facility als Technologievorschau implementiert. Dieses Interface fügt dem Kernel statische Testpunkte zur Verwendung mit Tools wie etwa **SystemTap** hinzu.

Device Failure Monitoring von RAID Sets

Device Failure Monitoring unter Verwendung der Tools dmraid und dmevent_tool sind in Red Hat Enterprise Linux 5.3 als Technologievorschau enthalten. Dies ermöglicht die Beobachtung und Meldung von Gerätefehlfunktionen auf Gerätekomponenten von RAID Sets.

8. Resolved Issues

8.1. All Architectures

- Die Daten für Aktivitätsberichte des TTY-Geräts wurden nicht ordnungsgemäß generiert. Der **sar -y**-Befehl schlug daher fehl und meldete den folgenden Fehler:

```
Requested activities not available in file (dt. Angeforderte Aktivitäten nicht
in der Datei verfügbar)
```

  In diesem aktualisierten Paket ist sar korrigiert, so dass die -y Option die Aktivität des TTY-Geräts anzeigt.
- Zuvor hinderte die Einstellung von **max_fds** auf **unlimited** in **/etc/multipath.conf** den **multipathd**-Daemon am Starten. Falls die Anzahl offener Datei-Deskriptoren auf das System-Maximum gesetzt werden muss, so sollte **max_fds** auf **max** eingestellt werden.

- **mod_perl** ist jetzt auf Version 2.0.4 rebasiert, der aktuellsten Upstream Release. Dieses Update wendet mehrere Updates an, darunter einen Bug-Fix, der es **mod_perl** jetzt gestattet, ordnungsgemäß mit **Bugzilla 3.0** zu arbeiten.
- **cups** basiert jetzt auf Version 1.3.7. Dieses Update beinhaltet mehrere Fehlerbehebungen und Verbesserungen, darunter:
  - Kerberos Authentifikation wird nun unterstützt
  - Benutzerdefinierte Drucker- und Job-Richtlinien werden jetzt ordnungsgemäß geladen.
  - Remote Warteschleifen-Chaches werden nicht mehr geladen, wenn das Browsing deaktiviert ist.
  - Die **classes.conf**-Konfigurationsdatei besitzt jetzt die korrekten Genehmigungen.
- **lm_sensors** basiert nun auf Version 2.10.7. Dieses Update beinhaltet mehrere Upstream-Verbesserungen und Fehlerbehebungen, darunter einen Fix, der verhindert, dass libsensors mit einer **General parse error**-Nachricht abstürzt, wenn **k8temp** ebenfalls geladen wird.
- Die Aktualisierung von **elfutils** im Rahmen dieser Release behebt nun die folgenden Fehler:
  - Das **eu-readelf**-Dienstprogramm stürtzte beim Lesen bestimmter Eingabe-Dateien ab.
  - Das **eu-strip**-Dlenstprogramm wird in den **rpmbuild**-Vorgängen verwendet, die neue Binärdatei-Pakete erstellen. Dabei werden Informationen zur Fehlerbehebung von ausführbarem Code getrennt, um **-debuginfo**-Pakete zu erstellen. Ein Fehler bei diesem Dienstprogramm führte dazu, dass unbrauchbare Informationen zur Fehlerbehebung für ET_REL-Dateien auf der s390-Plattform auftraten; dies betrifft Moduldateien des Linux-Kernels (**.ko.debug**) und führte dazu, dass die generierten **kernel-debuginfo**-Pakete nicht mit Systemtap auf s390 funktionierten.
- **vnc-server** ist nun auf Version 4.1.2-14.el5 abgestimmt. Dieses Update enthält die folgenden Fehlerbehebungen:
  - Ein Fehler, der **vncserver** am Drucken von Fehlermeldungen hinderte, wenn **Xvnc** nicht startete, ist jetzt behoben.
  - **Xvnc** verwendet nicht mehr die falsche Root Window Depth; es wird nun die korrekte Window Depth verwendet, wie sie durch die **-depth**-Option festgelegt wird.
  - Ein Fehler, der dazu führte, dass das **libvnc.so**-Modul den X-Server zum Absturz brachte, ist nun behoben.
  - **Xvnc** unterstützt jetzt GLX- und RENDER-Erweiterungen auf allen Architekturen.
- **smartmontools** basiert nun auf Version 5.38. Dieses Update verbessert die Autodetection von Hardware-Geräten, verbessert den Support für CCISS RAID Arrays und bietet eine größere Datenbank unterstützter Geräte.

  Dieses Update behebt außerdem einen Fehler bei dem SELinux **smartmontools** and der Überwachung von *3ware* RAID-Geräten hinderte. **smartmontools** ckann solche Geräte jetzt ordnungsgemäß überwachen.
- **python-urlgrabber** basiert nun auf Version 3.1.0-5. Dadurch werden mehrere Fehler von Upstream behoben, darunter:
  - **yum** kann nun ordnungsgemäß erneut aus einem **yum**-Repository downloaden, das Teil-Downloads nicht unterstützt.
  - **yum** kann nun mit einem unterbrochenen Download fortfahren, selbst wenn das **yum**-Repository mit einem festgelegten Port FTP-basiert ist.
  - Die Größe des Ladebalkens ist jetzt dynamisch zur Terminalbreite. Außerdem sind die Ladebalken nun übersichtlicher und zeigen einen Prozentsatz der insgesamt heruntergeladenen Daten an.
  - Das **keepalive**-Signal von **python-urlgrabber** funktioniert nun problemlos. In der Vergangenheit hatte ein Fehler bei diesem Signal dazu geführt, dass es während Download zu einer Erhöhung des Speichergebrauchs kam; außerdem verhinderte dieser Fehler die

ordnungsgemäße Funktionsweise von **reposync** und **yumdownloader** beim Herunterladen großer Mengen an Paketen.

- **Thunderbird** basiert nun auf Version 1.1.16. Es wurden mehrere Fehler behoben, darunter:
  - **yum update --security** findet jetzt alte, relevante Sicherheits-Updates.
  - **yum-versionlock** funktioniert jetzt ordnungsgemäß bei veralteten Paketen.

  Dieses Update enthält auch den **yum-fastestmirror**-Plugin, der es **yum** ermöglicht, das schnellste Repository in einer Mirror-Liste zu wählen.
- **Samba** basiert nun auf Upstream Version 3.2.0. Dadurch werden mehrere Fehler behoben, darunter einer, der Benutzer daran hinderte *Windows 2003* verwendende Domains als ihren Name-Server zu nutzen. Außerdem behebt dieses Update einen Fehler, der dazu führte, dass die Mitgliedschaft bei der **samba**-Domain nach Änderung des Systempassworts mittels **net rpc changetrustpw** unterbrochen wurde.

  For a more comprehensive list of upstream **samba** updates included this release, refer to http://www.samba.org/samba/history/samba-3.0.32.html
- **OpenLDAP** basiert nun auf Upstream Version 2.3.43. Mehrere Upstream Fehler wurden dabei behoben, darunter:
  - Das **init**-Skript meldet jetzt eine Warnung, wenn der **slapd**-Daemon eine TLS-Zertifikatsdatei nicht lesen kann.
  - Alle Bibliotheken im **openldap-debuginfo**-Paket sind jetzt unstripped.
  - Die Deinstallation des **openldap-devel**-Pakets, führt nicht mehr zu Schäden an den **OpenLDAP**-Bibliotheken.

  Red Hat distribuiert jetzt zusätzliche Overlays für OpenLDAP-Server. Außer **syncprov** befinden sich alle Overlays in separaten **openldap-servers-overlays**-Paketen, die als dynamisch ladbare Module kompiliert sind. Das **syncprov**-Overlay ist statisch zum **OpenLDAP**-Server verlinkt, um die Kompatibilität mit älteren **OpenLDAP**-Releases zu gewährleisten.
- Da bei der **xterm** Binärdatei das gesetzte Gruppen-ID (**setgid**) Bit konfiguriert war, waren bestimmte Umgebungsvariablen (wie **LD_LIBRARY_PATH** und **TMPDIR**) nicht gesetzt. In dieser Release sind bei der **xterm**-Binärdatei jetzt die Modus **0755**-Genehmigungen konfiguriert, wodurch dieses Problem behoben ist.
- The recommended method for balancing the load on NIS servers when multiple machines are connecting with ypbind has changed with this release. The ypbind daemon's behavior has not changed: it still pings all NIS servers listed in the **/etc/ypbind** configuration file and then binds to the single fastest-responding server. Before, it was recommended to list all available NIS servers in each machine's **/etc/ypbind.conf** configuration file. However, because even servers under high load can respond quickly to this ping, thus inadvertently increasing their own load, it is now recommended for administrators to list a smaller number of available NIS servers in each machine's ypbind.conf, and to vary this list across machines. In this way, NIS servers are automatically load-balanced due to not every NIS server being listed as being available to every machine.
- **Thunderbird** basiert nun auf Version 2.3.1. Diese Aktualisierung behebt mehrere Fehler, darunter:
  - Ein Fehler beim Umgang von **OpenMotif** mit den **Grab** und **Ungrab**-Ereignissen ist nun behoben. In früheren Releases führte dieser Fehler manchmal zur Display-Sperre.
  - Ein Fehler in **nedit** konnte bei Verwendung der **nedit** grafischen Benutzeroberfläche zum Absturz führen. Dies war aufgrund einer Funktion im Code der Fall, die bei einigen Fällen der Postenauswahl zu einem Segmentierungsfehler führte. Dieses Problem ist nun behoben.
- **dbus** basiert nun auf Version 1.1.2. Dieses Update behebt einen Fehler, der dazu führte, dass mehrthreadige Programme zu einer Sperre in **dbus** führten. In früheren Releases, bei denen ein Thread auf **dbus** horchte und Nachrichten verarbeitete, sendete der zweite Thread Nachrichten an **dbus**.
- **strace** basiert nun auf Version 4.5.18. Dadurch werden mehrere Fehler behoben, darunter:

- Ein Fehler, der zum Absturz von **strace** bei Verwendung der **-f**-Option bei einigen mehrthreadigen Programmen (insbesondere bei 64-bit Systemen) führte, ist jetzt behoben.
- Ein Fehler, der die 64-bit Version von **strace** an der Ausführung des **vfork()**-Funktionsaufrufs an einem 32-bit Vorgang hinderte, ist jetzt behoben.

- **cpuspeed** wurde zu Version 1.2.1-5 aktualisiert. Mit diesem Update lädt das **cpuspeed init**-Skript das **speedstep-centrino**-Modul jetzt, wenn das Laden aller anderen Module fehlschlägt. Außerdem wurde ein Benutzer-Space Fehler behoben, der das **Powernow-k8**-Modul am Laden hinderte nun behoben from.
- Der **frysk**-Satz von Tools wurde vollständig aus dieser Distribution entfernt. **frysk** war ursprünglich als Technologievorschau in Red Hat Enterprise Linux 5.0 enthalten.
- Die vom **iostat -x**/Befehl bereitgestellten Partition I/O Statistiken waren zuvor unvollständig. In diesem Update werden Partitionsstatistiken jetzt auf dieselbe Weise wie Disk-Statistiken errechnet, wodurch kohärente und verständliche I/O Statistiken auf Partitionsebene geliefert werden.
- Ein Passwort-Offenlegungsfehler wurde in der Konfigurationsdatei für den **Dovecot**-Mailserver gefunden. War bei einem System die **ssl_key_password**-Option definiert, so konnte jeder beliebige lokale Benutzer das SSL-Schlüsselpasswort einsehen. (CVE-2008-4870)

  Anmerkung

  Dieser Fehler gestattete dem Angreifer keinen Zugriff auf die Inhalte des SSL-Schlüssels. Das Passwort besitzt ohne die Schlüsseldatei, auf welche beliebige Benutzer keinen Lesezugriff haben sollten, keinen Wert.

  To better protect even this value, however, the **dovecot.conf** file now supports the "!include_try" directive. The **ssl_key_password** option should be moved from **dovecot.conf** to a new file owned by, and only readable and writable by, root (ie 0600). This file should be referenced from **dovecot.conf** by setting the **!include_try** ***/path/to/password/file*** option.

8.2. x86_64 Architectures

- **ksh** basiert nun auf Version 2008-02-02. Dieses Update fügt Multi-Byte Zeichen-Handhabung hinzu, löst zahlreiche Probleme bei der Job-Steuerung und behebt mehrere Fehler von Upstream. Beachten Sie, dass dieses Update zu **ksh** die Kompatibilität zu bestehenden Skripts bewahrt.

8.3. s390x Architectures

- Ein **vmconvert**-Fehler verhinderte, dass es ordnungsgemäß am **vmur**-Geräte-Node (**/dev/0.0.000c**) funktionierte. Dies führte zum Fehlschlagen von **vmconvert** beim Versuch auf Dumps am **vmur**-Gerät zuzugreifen mit dem Fehler **vmconvert: Open dump file failed! (Permission denied)**. Ein Update to **s390utils** in dieser Release behebt dieses Problem.
- Das **init**/Skript und die **config**-Datei für den **mon_procd**-Daemon sowie **mon_fsstatd**-Daemon fehlten im **s390utils**-Paket. Es konnte daher kein Build dieser Daemons erfolgen und diese konnten nicht verwendet werden. Die fehlenden Dateien wurden diesem Update hinzugefügt, so dass das Problem nun behoben ist.

8.4. PowerPC Architectures

- Ein Fehler, der das **ehci_hcd**-Modul daran hinderte auf dieser Architektur erneut zu laden, wurde nun behoben. Dies stellt sicher, dass der *Belkin 4-port PCI-Express USB Lily*-Adapter (und andere ähnliche Geräte) jetzt mit Red Hat Enterprise Linux 5 ordnungsgemäß funktionieren, wenn das

ehci_hcd-Modul verwendet wird.

- Die **libhugetlbfs**-Bibliothek basiert nun auf Version 1.3. Dieses Update wendet mehrere Upstream Verbesserungen an der Bibliothek, wodurch die Performance von Huge-Seiten verwendenden Anwendungen verbessert wird.

  Eine vollständige Liste von Updates für **libhugetlbfs** finden Sie unter folgendem Link:

  http://sourceforge.net/mailarchive/message.php?msg_name=20080515170754.GA1830%40us.ibm.com

9. Known Issues

9.1. All Architectures

- Wenn das neue Feature der Platten-Verschlüsselung angewendet wird zum Verschlüsseln des Root Dateisystems, wird die folgende Fehlermeldung beim Herunterfahren des Systems auf der Konsole ausgegeben:

  ```
  Stopping disk encryption [FAILED]
  ```

  Diese Meldung kann getrost ignoriert werden, denn das Herunterfahren wird dennoch erfolgreich abgeschlossen.
- When using an encrypted device, the following error message may be reported during bootup:

  ```
  insmod: error inserting '/lib/aes_generic.ko': -1 File exists
  ```

  This message can safely be ignored.
- Eine Installation unter Verwendung von Multiple Device (MD) RAID zusätzlich zu multipath wird dazu führen, dass der Rechner nicht booten kann. Multipath zu Storage Area Network (SAN) Geräten, welche RAID intern bieten, sind davon nicht betroffen.
- When a large number of LUNs are added to a node, multipath can significantly increase the time it takes for udev to create device nodes for them. If you experience this problem, you can correct it by deleting the following line in **/etc/udev/rules.d/40-multipath.rules**:

  ```
  KERNEL!="dm-[0-9]*", ACTION=="add", PROGRAM=="/bin/bash -c '/sbin/lsmod |
  /bin/grep ^dm_multipath'", RUN+="/sbin/multipath -v0 %M:%m"
  ```

  This line causes udev to run multipath every time a block device is added to the node. Even with this line removed, multipathd will still automatically create multipath devices, and multipath will still be called during the boot process, for nodes with multipathed root filesystems. The only change is that multipath devices will not be automatically created when multipathd is not running, which should not be a problem for the vast majority of multipath users.
- Beim Aktualisieren von einer früheren Version von Red Hat Enterprise Linux auf 5.3 können Sie auf folgenden Fehler stoßen:

  ```
  Updating   : mypackage                  ################### [ 472/1655]
  rpmdb: unable to lock mutex: Invalid argument
  ```

  Der Grund für dieses Locking Problem ist, dass das gemeinsam genutzte Futex-Locking in glibc mit Futexes pro Prozess zwischen 5.2 und 5.3 weiterentwickelt wurde. Dies hat zur Folge, dass Programme, die mit 5.2 glibc laufen, gemeinsam genutztes Futex Locking nicht ordnungsgemäß ausführen können zusammen mit Programmen, welche mit 5.3 glibc laufen.

  Diese spezielle Fehlermeldung ist eine Nebenwirkung eines Paketes, welches rpm als Teil seines

Installationsprozesses aufruft. Der RPM Vorgang, der die Aktualisierung durchführt, verwendet die frühere glibc während der gesamten Aktualisierung. Der RPM Vorgang, der aus dem Skript heraus gestartet wurde, nutzt jedoch die neue glibc.

To avoid this error, upgrade glibc first in a separate run:

```
# yum update glibc
# yum update
```

You will also see this error if you downgrade glibc to an earlier version on an installed 5.3 system.

- **mvapich** und **mvapich2** sind in Red Hat Enterprise Linux 5 kompiliert, um nur die *InfiniBand/iWARP* Interconnects zu unterstützen. Infolgedessen laufen sie nicht über Ethernet oder Netzwerk Interconnects.
- In Systemen mit mehr als zwei verschlüsselten Blockgeräten hat Anaconda eine Option, die ein übergreifendes Passwort bietet kann. Die init Scripte unterstützen dieses Feature jedoch nicht. Beim Booten des Systems wird die Eingabe der jeweiligen Passwörter für jedes verschlüsselte Gerät verlangt.
- When upgrading openmpi using yum, the following warning may be returned:

```
cannot open `/tmp/openmpi-upgrade-version.*' for reading: No such file or
directory
```

The message is harmless and can be safely ignored.

- Das Konfigurieren von IRQ SMP Affinität hat keine Auswirkung auf manche Geräte, die "Message Signaled Interrupts" (MSI) verwenden ohne Fähigkeit für das MSI Per-Vector Masking. Beispiele für solche Geräte sind *Broadcom NetXtreme* Ethernet Geräte, die den Treiber **bnx2** verwenden.

  Wenn Sie die IRQ Affinität für ein solches Gerät konfigurieren müssen, deaktivieren Sie MSI durch Erstellen einer Datei in **/etc/modprobe.d/**, welche die folgende Zeile enthält:

```
    options bnx2 disable_msi=1
```

  Alternativ können Sie MSI auch vollständig deaktivieren, indem Sie den Kernel Boot Parameter **pci=nomsi** verwenden.

- Ein Bug in der aktualisierten Datei **/etc/udev/rules.d/50-udev.rules** verhindert das Erstellen von persistenten Namen für Bandgeräte mit Zahlen größer als 9 im Namen. So wird beispielsweise kein persistenter Name für ein Bandgerät mit einem Namen **nst12** erstellt.

  Fügen Sie als temporäre Lösung ein Sternchen (*) hinter jedem Treffer des Strings **nst[0-9]** in **/etc/udev/rules.d/50-udev.rules** ein.

- Das **smartctl**-Tool kann SMART-Parameter nicht korrekt von SATA-Geräten lesen.
- Ein Bug in früheren Versionen von **openmpi** und **lam** kann Sie am Aktualisieren dieser Pakete hindern. Dieser Bug äußert sich im folgenden Fehler (beim Versuch, **openmpi** oder **lam** zu aktualisieren):

```
error: %preun(openmpi-[version]) scriptlet failed, exit status 2
```

  Deshalb müssen Sie ältere Versionen von **openmpi** und **lam** manuell entfernen, um deren aktuellste Versionen zu installieren. Verwenden Sie hierfür den folgenden **rpm**-Befehl:

  rpm -qa | grep '^openmpi-\|^lam-' | xargs rpm -e --noscripts --allmatches

- When using **dm-multipath**, if **features "1 queue_if_no_path"** is specified in **/etc/multipath.conf** then any process that issues I/O will hang until one or more paths are restored.

To avoid this, set **no_path_retry *[N]*** in **/etc/multipath.conf** (where ***[N]*** is the number of times the system should retry a path). When you do, remove the **features "1 queue_if_no_path"** option from **/etc/multipath.conf** as well.

If you need to use **"1 queue_if_no_path"** and experience the issue noted here, use **dmsetup** to edit the policy at runtime for a particular LUN (i.e. for which all the paths are unavailable).

To illustrate: run **dmsetup message *[device]* 0 "fail_if_no_path"**, where ***[device]*** is the multipath device name (e.g. **mpath2**; do not specify the path) for which you want to change the policy from **"queue_if_no_path"** to **"fail_if_no_path"**.

- Das Aktivieren von mehreren installierten Versionen desselben Kernel-Moduls wird nicht unterstützt. Zusätzlich kann ein Bug in der Art und Weise, wie Kernel-Module analysiert werden, manchmal dazu führen, dass eine ältere Version desselben Kernel-Moduls aktiviert wird.

  Red Hat empfiehlt, bei der Installation einer neueren Version eines installierten Kernel-Moduls zunächst die ältere Version zu deinstallieren.
- Das Ausführen von **kdump** auf einem *IBM Bladecenter QS21* oder *QS22*, konfiguriert mit NFS-Root, schlägt fehl. Um dies zu umgehen, geben Sie ein NFS-Dump-Ziel in **/etc/kdump.conf** an.
- *IBM T60* schalten sich im Suspend-Modus und beim Andocken an einer Docking-Station komplett aus. Um dies zu verhindern, booten Sie das System mit dem Parameter **acpi_sleep=s3_bios**.
- Die *QLogic iSCSI Expansion Card* für das *IBM Bladecenter* liefert sowohl Ethernet- als auch iSCSI-Funktionen. Einige Teile der Karte werden von beiden Funktionen gemeinsam verwendet. Die aktuellen **qla3xxx**- und **qla4xxx**-Treiber unterstützen die Ethernet- und iSCSI-Funktionen jedoch individuell. Beide Treiber unterstützen die gleichzeitige Verwendung von Ethernet- und iSCSI-Funktionen jedoch nicht.

  Aufgrund dieser Einschränkung können nachfolgende Resets (durch aufeinander folgende **ifdown**/**ifup**-Befehle) zum Hängenbleiben des Geräts führen. Gönnen Sie sich ein 10-Sekunden Intervall nach einem **ifup**, bevor Sie ein **ifdown** ausführen, um dies zu verhindern. Gönnen Sie sich dasselbe 10-Sekunden Intervall nach einem **ifdown**, bevor Sie ein **ifup** ausführen. Dieses Intervall bietet ausreichend Zeit zur Stabilisierung und Neuinitialisierung aller Funktionen, wenn ein **ifup** ausgeführt wird.
- Laptops, die mit einer *Cisco Aironet MPI-350* Wireless-Karte ausgestattet sind, bleiben ggf. beim Versuch hängen, eine DHCP-Adresse während einer netzwerkbasierten Installation via festverdrahtetem Ethernet-Port zu erhalten.

  Um dies zu umgehen, verwenden Sie lokale Medien für Ihre Installation. Alternativ können Sie auch die Wirelesskarte im BIOS des Laptops vor Beginn der Installation deaktivieren (Sie können die Wirelesskarte nach Abschluss der Installation wieder reaktivieren).
- Das Protokollieren während des Bootvorgangs in **/var/log/boot.log** steht in Red Hat Enterprise Linux 5.3 nicht zur Verfügung.
- Das System bootet ggf. nicht erfolgreich in einen **kexec**-/**kdump**-Kernel, wenn X ausgeführt wird und einen anderen Treiber als *vesa* verwendet. Das Problem tritt lediglich mit *ATI Rage XL* Grafik-Chipsätzen auf.

  Falls X auf einem System mit *ATI Rage XL* Grafikkarte läuft, stellen Sie sicher, das diese den *vesa*-Treiber verwendet, um erfolgreich in einen **kexec**-/**kdump**-Kernel zu booten.
- Wenn Sie Red Hat Enterprise Linux 5.2 auf einem Rechner mit einem *nVidia CK804*-Chipsatz verwenden, erhalten Sie möglicherweise folgende Kernelmeldungen:

```
kernel: assign_interrupt_mode Found MSI capability
kernel: pcie_portdrv_probe->Dev[005d:10de] has invalid IRQ. Check vendor BIOS
```

  Diese Meldungen weisen darauf hin, dass bestimmte PCI-E-Ports keine IRQs anfordern. Sie beeinflussen jedoch in keiner Weise die Funktionsfähigkeit des Rechners.

- Entfernbare Speichergeräte (wie beispielsweise CDs und DVDs) werden nicht automatisch eingehängt, wenn Sie sich als Root einloggen. Aus diesem Grund müssen Sie diese Geräte mithilfe des grafischen Dateimanagers manuell einhängen.

  Alternativ können Sie den folgenden Befehl ausführen, um ein Gerät unter **/media** einzuhängen:

  ```
  mount /dev/[device name] /media
  ```

- Wenn eine LUN auf einem konfigurierten Speichersystem gelöscht wird, wirkt sich die Änderung nicht auf den Host aus. In diesen Fällen bleiben **lvm** Befehle unbegrenzt lange hängen, wenn **dm-multipath** verwendet wird, da die LUN nun als *stale* (abgelaufen) gilt.

  Löschen Sie als provisorische Lösung alle Geräte und **mpath** Link-Einträge in **/etc/lvm/.cache**, die spezifisch für die abgelaufene LUN sind.

  Um herauszufinden, wie diese Einträge lauten, führen Sie folgenden Befehl aus:

  ls -l /dev/mpath | grep *[stale LUN]*

  Wenn die ***[stale LUN]*** beispielsweise 3600d0230003414f30000203a7bc41a00 beträgt, können die folgenden Resultate auftreten:

  ```
  lrwxrwxrwx 1 root root 7 Aug  2 10:33 /3600d0230003414f30000203a7bc41a00 ->
  ../dm-4
  lrwxrwxrwx 1 root root 7 Aug  2 10:33 /3600d0230003414f30000203a7bc41a00p1 ->
  ../dm-5
  ```

  Dies bedeutet, dass 3600d0230003414f30000203a7bc41a00 zwei **mpath**-Verknüpfungen zugewiesen ist: **dm-4** und **dm-5**.

  Daher sollten die folgenden Zeilen aus **/etc/lvm/.cache** gelöscht werden:

  ```
  /dev/dm-4
  /dev/dm-5
  /dev/mapper/3600d0230003414f30000203a7bc41a00
  /dev/mapper/3600d0230003414f30000203a7bc41a00p1
  /dev/mpath/3600d0230003414f30000203a7bc41a00
  /dev/mpath/3600d0230003414f30000203a7bc41a00p1
  ```

- Das Ausführen des **multipath**-Befehls mit der Option **-ll** kann dazu führen, dass der Befehl hängenbleibt, falls sich einer der Pfade auf einem Blockinggerät befindet. Beachten Sie, dass der Treiber für einige Zeit keine Anfrage bearbeitet, falls das Gerät nicht mehr antwortet.

  Dies wird durch den Cleanup-Code verursacht, der solange wartet, bis die Anfrage für die Überprüfung des Pfads entweder erfolgreich abgeschlossen wird oder fehlschlägt. Um den aktuellen **multipath**-Status anzuzeigen, ohne den Befehl aufzuhängen, verwenden Sie stattdessen **multipath -l**.
- Das Aktualisieren von **pm-utils** von einer Red Hat Enterprise Linux 5.2 Beta Version von **pm-utils** schlägt fehl und resultiert in dem folgenden Fehler:

  ```
  error: unpacking of archive failed on file /etc/pm/sleep.d: cpio: rename
  ```

  Löschen Sie das Verzeichnis **/etc/pm/sleep.d/** vor der Aktualisierung, um zu verhindern, dass dies passiert. Falls in **/etc/pm/sleep.d/** irgendwelche Dateien existieren, verschieben Sie diese Dateien nach **/etc/pm/hooks/**.
- Das Testen von Hardware für das *Mellanox MT25204* hat ergeben, dass unter bestimmten Bedingungen mit hoher Auslastung ein interner Fehler auftritt. Wenn der **ib_mthca**-Treiber einen schwerwiegenden Fehler auf dieser Hardware meldet, liegt dies gewöhnlich an unzureichender Tiefe

der Queues in Bezug auf die Anzahl ausstehender Arbeitsanfragen, die von der Benutzerapplikation generiert wurden.

Auch wenn der Treiber die Hardware zurücksetzt und sich von einem solchen Ereignis erholt, gehen alle bestehenden Verbindungen zum Zeitpunkt des Fehlers verloren. Dies führt gewöhnlich zu einem Segmentation Fault der Benutzerapplikation. Wenn außerdem **opensm** zum Zeitpunkt läuft, wenn der Fehler auftritt, muss es manuell neu gestartet werden, um den Betrieb wieder normal aufzunehmen.

- Beim Installieren von Red Hat Enterprise Linux 5 auf einem Gast wird dieser so konfiguriert, dass er ausdrücklich einen temporären Installations-Kernel verwendet, bereitgestellt von **dom0**. Sobald die Installation abgeschlossen ist, kann er seinen eigenen Boot-Loader verwenden. Dies kann allerdings nur dadurch erreicht werden, dass der Gast beim ersten Neustart stattdessen zum Beenden gezwungen wird.

  Nach beendeter Gast-Installation wird aus diesem Grund der Klick auf den erscheinenden **Reboot**-Schalter den Gast beenden, ohne Neustart. Dieses Verhalten ist erwartet.

  Beachten Sie, dass beim anschließenden Neustart des Gastes dessen eigener Boot-Loader verwendet wird.
- Das Ausführen von **rpmbuild** auf dem **compiz** Quell-RPM schlägt fehl, wenn ein KDE- oder **qt**-Development-Paket (z.B. **qt-devel**) installiert ist. Dies wird hervorgerufen durch einen Fehler im **compiz** Konfigurations Script.

  Für eine provisorische Lösung entfernen Sie jedes KDE- oder **qt** Development-Paket, bevor Sie versuchen, das **compiz** Paket von dem Quell-RPM zu erstellen.
- Wenn Ihr System entweder mit einer *ATI Radeon R500* oder *R600* Grafikkarte ausgestattet ist, wird **firstboot** nach der Installation nicht laufen. Das System geht direkt zum grafischen Login-Schirm und überspringt **firstboot** vollständig. Wenn Sie versuchen, **firstboot** manuell auszuführen, z.B. von einem Failsafe Terminal aus, wird die X-Session abstürzen.

  Dieses Problem wird hervorgerufen durch den von der *ATI Radeon R500/R600* Hardware genutzten Treiber. Der von diesen Grafikkarten genutzte Standard-Treiber ist noch in der Technologievorschau. Für eine provisorische Lösung sichern Sie Ihre **/etc/X11/xorg.conf** Datei, und konfigurieren anschließend X, um stattdessen den unterstützten Treiber**vesa** zu verwenden. Führen Sie dafür den folgenden Befehl aus:

  ```
  system-config-display --reconfig --set-driver=vesa
  ```

  Sie können nun **firstboot** ausführen. Um zu Ihren alten Einstellungen zurückzukehren, stellen Sie die ursprüngliche **/etc/X11/xorg.conf** Datei wieder her.
- Wenn Ihr System den TSC Timer verwendet, kann der Systemaufruf **gettimeofday** zurückspringen. Dies liegt an einem Überlauf Problem, das in einigen Fällen zu einem deutlichen vorwärtsspringen des TSC Timers führt. In diesem Fall wird der TSC Timer sich zwar selbst korrigieren, aber letztendlich eine Rückwärts-Verschiebung der Zeit registrieren.

  Dieses Problem ist besonders kritisch für zeitsensible Systeme, wie z.B. die von Datenbanken und Transaktionssystemen verwendeten. Falls Ihr System auf präzise Zeitberechnung angewiesen ist, empfiehlt Red Hat daher dringend, den Kernel auf die Verwendung eines anderen Timers (z.B. HPET) umzustellen.
- Der Versuch, **sniff** auszuführen, kann in einem Fehler resultieren. Dies liegt daran, dass einige benötigte Pakete nicht mit **dogtail** installiert werden.

  Um dies zu verhindern, installieren Sie die folgenden Pakete manuell:

  - librsvg2
  - ghostscript-fonts
  - pygtk2-libglade
- *Thin Provisioning* (also known as "virtual provisioning") will be first released with *EMC Symmetrix DMX3* and *DMX4*. Please refer to the *EMC Support Matrix* and *Symmetrix Enginuity* code release notes for further details.

- Wenn in **/etc/multipath.conf** die Einstellung **max_fds** auf **unlimited** gesetzt wird, verhindert dies den korrekten Start des **multipathd**-Daemons. Daher sollten Sie stattdessen einen ausreichend hohen Wert angeben.
- SystemTap verwendet zur Zeit GCC, um Ereignisse im User Space zu überprüfen. GCC kann allerdings den Debugger nicht mit präzisen Informationen versorgen zur Location List für die Parameter. In einigen Fällen gelingt es GCC auch nicht, einige Parameter wiederzugeben. Infolgedessen geben SystemTap Scripts, die den User Space überprüfen, ggf. ungenaue Werte wieder.
- Das Laptop Modell *IBM T41* tritt nicht ordnungsgemäß in den**Suspend Mode** ein, daher wird der **Suspend Mode** weiterhin Akkulaufzeit verbrauchen wie im normalen Betrieb. Dies rührt daher, dass Red Hat Enterprise Linux 5 noch nicht das **radeonfb** Modul enthält.

  Fügen Sie für eine provisorische Lösung ein Skript mit dem Namen **hal-system-power-suspend** zu **/usr/share/hal/scripts/** hinzu, welches die folgenden Zeilen enthalten sollte:

  ```
  chvt 1
  radeontool light off
  radeontool dac off
  ```

  Dieses Skript gewährleistet, dass *IBM T41*-Laptops ordnungsgemäß in den**Suspend Mode** eintreten. Um sicherzustellen, dass das System den normalen Betrieb richtig wieder aufnimmt, fügen Sie ebenso das Skript **restore-after-standby** zum gleichen Verzeichnis hinzu. Dieses Skript sollte folgende Zeilen enthalten:

  ```
  radeontool dac on
  radeontool light on
  chvt 7
  ```

- Wenn das **edac**-Modul geladen wird, funktioniert der BIOS Memory Reporting nicht. Dies liegt daran, dass das **edac**-Modul das Register löscht, welches das BIOS zum melden von Speicherfehlern benutzt.

  Das aktuelle Red Hat Enterprise Linux Driver-Update Modell weist den Kernel an, alle verfügbaren Module standardmäßig zu laden (einschließlich der **edac**-Module). Falls Sie die Erstellung von BIOS Memory Reporting sicherstellen wollen, müssen Sie die **edac**-Module manuell auf die Blacklist setzen. Fügen Sie dazu die folgenden Zeilen zu **/etc/modprobe.conf** hinzu:

  ```
  blacklist edac_mc
  blacklist i5000_edac
  blacklist i3000_edac
  blacklist e752x_edac
  ```

- Red Hat Enterprise Linux 5.3 kann das Anwachsen und Schrumpfen eines zugrundeliegendene Blockgeräts im Live-Betrieb ermitteln. Allerdings gibt es keine Möglichkeit, automatisch festzustellen, dass ein Gerät seine Größe verändert hat. Also sind manuelle Schritte nötig, um dies zu erkennen, und die Größe jeglicher Dateisysteme auf den fraglichen Geräten anzupassen. Wenn ein Blockgerät mit geänderter Größe gefunden wird, erscheint eine Meldung ähnlich der folgenden in der System-Protokolldatei:

  ```
  VFS: busy inodes on changed media or resized disk sdi
  ```

  Wenn das Blockgerät angewachsen ist, dann kann diese Meldung problemlos ignoriert werden.

Wenn allerdings das Blockgerät geschrumpft wurde, ohne dass zuvor die auf dem Blockgerät enthaltenen Daten verkleinert wurden, dann sind die auf dem Gerät enthaltenen Daten womöglich fehlerhaft.

Es ist nur möglich, eine Größenveränderung im Live-Betrieb für ein Dateisystems vorzunehmen, wenn dieses auf der gesamten LUN (oder Blockgerät) erstellt wurde. Falls es eine Partitionstabelle auf dem Blockgerät gibt, dann muss das Dateisystem abgehängt werden, damit die Partitionstabelle aktualisiert werden kann.

- Falls Ihr System ein GFS2 Dateisystem angehängt hat, könnte ein Knoten hängenbleiben, wenn von einem Knoten auf eine zwischengespeicherte Inode zugegriffen wird, die von einem anderen Knoten abgetrennt wird. Falls dies auftritt, ist der aufgehängte Knoten solange nicht verfügbar, bis Sie ihn abgrenzen und wiederherstellen mit der normalen Vorgangsweise zur Cluster-Wiederherstellung. Diese Funktion ruft **`gfs2_dinode_dealloc`** und **`shrink_dcache_memory`** auf, und wird auch in den vom Stapel hinterlassenen Spuren von jedem Prozess erscheinen, der in dem aufgehängten Knoten steckte.

  Dieses Problem betrifft nicht GFS2 Dateisysteme mit nur einem Knoten.

- The following message may be encountered during system boot:

  ```
  Could not detect stabilization, waiting 10 seconds.
  Reading all physical volumes.  This may take a while...
  ```

  This delay (which may be up to 10 seconds, dependant on the hardware configuration) is necessary to ensure that the kernel has completed scanning the disks.

- Die aktuelle Implementation von **User Payload Access** in **ipmitool** ermöglicht es Ihnen zwar, Geräte zu konfigurieren, allerdings erlaubt es Ihnen nicht, die aktuellen Einstellungen dieser Geräte abzufragen.

- Das Verwenden des **`swap --grow`** Parameters in einer Kickstart-Datei, ohne dabei gleichzeitig den **`--maxsize`** Parameter einzustellen, veranlasst Anaconda zum Verhängen einer Größenbeschränkung der Swap Partition (?). Es erlaubt ihr nicht zu wachsen, bis das Gerät voll ist.

  In Systemen mit weniger als 2 GB physikalischem Speicher, beträgt die verhängte Grenze das Doppelte der Größe des physikalischen Speichers. In Systemen mit mehr als 2 GB entspricht die verhängte Grenze der Größe des physikalischen Speichers zuzüglich 2 GB.

- The **`gfs2_convert`** program may not free up all blocks from the GFS metadata that are no longer used under GFS2. These unused metadata blocks will be discovered and freed the next time gfs2_fsck is run on the file system. It is recommended that **`gfs2_fsck`** be run after the filesystem has been converted to free the unused blocks. These unused blocks will be flagged by gfs2_fsck with messages such as:

  ```
  Ondisk and fsck bitmaps differ at block 137 (0x89)
  Ondisk status is 1 (Data) but FSCK thinks it should be 0 (Free)
  Metadata type is 0 (free)
  ```

  These messages do not indicate corruption in the GFS2 file system, they indicate blocks that should have been freed, but were not. The number of blocks needing to be freed will vary depending on the size of the file system and block size. Many file systems will not encounter this issue at all. Large file systems may have a small number of blocks (typically less than 100).

9.2. x86 Architectures

- When running the bare-metal (non-Virtualized) kernel, the X server may not be able to retrieve **`EDID`** information from the monitor. When this occurs, the graphics driver will be unable to display resolutions highers than 800x600.

Fügen Sie als provisorische Lösung die folgende Zeile zum Abschnitt **ServerLayout** der Datei **/etc/X11/xorg.conf** hinzu:

```
Option "Int10Backend" "x86emu"
```

- Recording needs to be manually enabled on *Dell M4300* and *M6300*. To do this, perform the following steps:
  1. Öffnen Sie **alsamixer**.
  2. Drücken Sie **Tab** zum auswählen von **[Capture]** im**View**-Feld (befindet sich im oberen linken Teil des Menüs)
  3. Drücken Sie die **Leertaste**.
  4. Um sicherzugehen, dass die Aufnahme aktiviert wurde, überprüfen Sie den Text oberhalb des **ADCMux** Feldes; dort sollte **L R CAPTUR** angezeigt werden.
- If encryption is enabled on the boot device during system installation, the following message will be logged during system boot:

  ```
  padlock: VIA PadLock not detected.
  ```

  This message can safely be ignored.

9.3. x86_64 Architectures

- Some machines that use *NVIDIA* graphics cards may display corrupted graphics or fonts when using the graphical installer or during a graphical login. To work around this, switch to a virtual console and back to the original X host.
- On an *IBM T61* laptop, Red Hat recommends that you refrain from clicking the **glxgears** window (when **glxgears** is run). Doing so can lock the system.

  Um dies zu vermeiden, deaktivieren Sie das Tiling Feature. Fügen Sie dazu die folgende Zeile ein in den **Device**-Bereich von **/etc/X11/xorg.conf**:

  ```
  Option "Tiling" "0"
  ```
- Recording needs to be manually enabled on *Dell M4300* and *M6300*. To do this, perform the following steps:
  1. Öffnen Sie **alsamixer**.
  2. Drücken Sie **Tab** zum auswählen von **[Capture]** im**View**-Feld (befindet sich im oberen linken Teil des Menüs)
  3. Drücken Sie die **Leertaste**.
  4. Um sicherzugehen, dass die Aufnahme aktiviert wurde, überprüfen Sie den Text oberhalb des **ADCMux** Feldes; dort sollte **L R CAPTUR** angezeigt werden.
- Falls Ihr System eine *Intel 945GM* Grafikkarte verwendet, benutzen Sie nicht den **i810**-Treiber. Sie sollten stattdessen den Standard-**intel**-Treiber verwenden.
- Auf Dual-GPU-Laptops, falls einer der Grafikchips Intel-basiert ist, kann der Intel Grafikmodus keine digitalen externen Verbindungen unterstützen (inklusive HDMI, DVI, und DisplayPort). Dies ist eine Hardware-Einschränkung der Intel GPU. Falls Sie externe digitale Verbindungen benötigen, konfigurieren Sie das System, den diskreten Grafikchip (im BIOS) zu verwenden.

9.4. PowerPC Architectures

- When using **Alt**-**SysRq**-**W** to debug, the following warning message will appear:

```
Badness in smp_call_function at arch/powerpc/kernel/smp.c:223
```

Anschließend warnt das System auch davor, dass es hängen bleiben wird. Diese Meldung kann ignoriert werden, denn es wird tatsächlich nicht zum Hängenbleiben des Systems führen.

- Recording needs to be manually enabled on *Dell M4300* and *M6300*. To do this, perform the following steps:
  1. Öffnen Sie **`alsamixer`**.
  2. Drücken Sie **`Tab`** zum auswählen von **[Capture]** im**View**-Feld (befindet sich im oberen linken Teil des Menüs)
  3. Drücken Sie die **`Leertaste`**.
  4. Um sicherzugehen, dass die Aufnahme aktiviert wurde, überprüfen Sie den Text oberhalb des **`ADCMux`** Feldes; dort sollte **`L R CAPTUR`** angezeigt werden.
- The size of the PPC kernel image is too large for OpenFirmware to support. Consequently, network booting will fail, resulting in the following error message:

```
Please wait, loading kernel...
/pci@8000000f8000000/ide@4,1/disk@0:2,vmlinux-anaconda: No such file or
directory
boot:
```

To work around this:

1. Boot to the OpenFirmware prompt, by pressing the '8' key when the IBM splash screen is displayed.
2. Führen Sie folgenden Befehl aus:

   ```
   setenv real-base 2000000
   ```

3. Booten Sie in die System Managment Services (SMS) mit dem Befehl:

   ```
   0> dev /packages/gui obe
   ```

9.5. s390x Architectures

- When running Red Hat Enterprise Linux 5.2 on a z/VM that has more than 2GB of guest storage defined, invalid data can be read from and written to any FCP and OSA device attached in QDIO mode with the Queued-I/O assist (QIOASSIST) option enabled. If your system has any such devices attached, Red Hat recommends that you download and install the corresponding z/VM Program Temporary Fix (PTF) from the following link:

  http://www-1.ibm.com/support/docview.wss?uid=isg1VM64306
- It is not possible to directly read and convert a z/VM dump into a file. Instead, you should first copy the dump from the z/VM reader into a Linux file system using **`vmur`** and convert the dump into a Linux-readable file using **`vmconvert`**.
- The *IBM System z* does not provide a traditional Unix-style physical console. As such, Red Hat Enterprise Linux 5.2 for the *IBM System z* does not support the *firstboot* functionality during initial program load.

  Um die Einrichtung für Red Hat Enterprise Linux 5.2 auf dem *IBM System z* ordnungsgemäß zu starten, führen Sie die folgenden Befehle nach der Installation aus:

  - **`/usr/bin/setup`** —. Dies wird vom Paket **`setuptool`** zur Verfügung gestellt.
  - **`/usr/bin/rhn_register`** —. Dies wird vom Paket **`rhn-setup`** zur Verfügung gestellt.

9.6. ia64 Architecture

- Some *Itanium* systems cannot properly produce console output from the **kexec purgatory** code. This code contains instructions for backing up the first 640k of memory after a crash.

  Auch wenn die **purgatory** Konsolenausgabe bei Diagnoseproblemen nützlich sein kann, wird sie nicht benötigt zum korrekten Funktionieren von **kdump**. Falls Ihr *Itanium*-System daher während einer **kdump**-Operation zurückgesetzt wird, deaktivieren Sie die Konsoleausgabe in **purgatory**, indem Sie **--noio** zur Variable **KEXEC_ARGS** in **/etc/sysconfig/kdump** hinzufügen.
- Running **perftest** will fail if different CPU speeds are detected. As such, you should disable CPU speed scaling before running **perftest**.
- When the **kdump** kernel is booted, the following error will appear in the boot log:

  ```
  mknod: /tmp/initrd.[numbers]/dev/efirtc: No such file or directory
  ```

  Dieser Fehler resultiert aus der fehlerhaften Anforderung, **efirtc** in einem inkorrekten Pfad zu erstellen. Allerdings wird der fragliche Geräte-Pfad auch statisch erstellt in **initramfs**, sobald der **kdump** Dienst gestartet wird. Aus diesem Grund ist die Erstellung eines Geräte-Knotens während der Laufzeit überflüssig, harmlos, und sollte die Leistung von **kdump** nicht beeinträchtigen.
- Some systems may be unable to boot the **kdump** kernel properly. In such cases, use the **machvec=dig** kernel parameter.
- Recording needs to be manually enabled on *Dell M4300* and *M6300*. To do this, perform the following steps:
  1. Öffnen Sie **alsamixer**.
  2. Drücken Sie **Tab** zum auswählen von **[Capture]** im**View**-Feld (befindet sich im oberen linken Teil des Menüs)
  3. Drücken Sie die **Leertaste**.
  4. Um sicherzugehen, dass die Aufnahme aktiviert wurde, überprüfen Sie den Text oberhalb des **ADCMux** Feldes; dort sollte **L R CAPTUR** angezeigt werden.
- Auf Intel Itanium-basierten Systemen, die SELinux im Enforcing-Modus betreiben, muss entweder die Boolesche Variable **allow_unconfined_execmem_dyntrans** oder **allow_execmem** aktiviert sein, um dem IA-32 Execution Layer (**ia32el**-Service) ein korrektes Funktionieren zu ermöglichen. Falls die Boolesche Variable **allow_unconfined_execmem_dyntrans** ausgeschaltet ist, aber der **allow_execmem** aktiviert ist, (die Standard-Einstellung in Red Hat Linux Enterprise 5), dann wird 32-bit Emulation vom ia32el Service unterstützt. Wenn allerdings beide Booleschen Variablen deaktiviert sind, schlägt die Emulation fehl.

10. Added Packages

cmirror-1.1.36-1.el5

- Group: **System Environment/Base**
- Summary: **cmirror - The Cluster Mirror Package**
- Description:

  ```
  cmirror - Cluster Mirroring
  ```

cmirror-kmod-0.1.21-10.el5

- Group: **System Environment/Kernel**
- Summary: **cmirror kernel modules**
- Description:

```
cmirror-kmod - The Cluster Mirror kernel modules
```

compat-libcom_err-1.0-7

- Group: **System Environment/Libraries**
- Summary: **A libcom_err compatibility library**
- Description:

```
The compat-libcom_err package contains libcom_err.so.3, which may be
required
by applications which were built against older packages of MIT Kerberos.
```

crash-spu-commands-1.1-1

- Group: **Development/Debuggers**
- Summary: **Cell/B.E. SPU commands extension for crash**
- Description:

```
Specific commands for debugging SPU run control data using crash.
```

dapl-2.0.13-4.el5

- Group: **System Environment/Libraries**
- Summary: **Library providing access to the DAT 1.2 and 2.0 APIs**
- Description:

```
libdat and libdapl provide a userspace implementation of the DAT 1.2 and
2.0
API that is built to natively support InfiniBand/iWARP network
technology.
```

dstat-0.6.6-3.el5

- Group: **System Environment/Base**
- Summary: **Versatile resource statistics tool**
- Description:

```
Dstat is a versatile replacement for vmstat, iostat, netstat and ifstat.
Dstat overcomes some of their limitations and adds some extra features,
more counters and flexibility. Dstat is handy for monitoring systems
during performance tuning tests, benchmarks or troubleshooting.

Dstat allows you to view all of your system resources instantly, you
can eg. compare disk usage in combination with interrupts from your
IDE controller, or compare the network bandwidth numbers directly
with the disk throughput (in the same interval).

Dstat gives you detailed selective information in columns and clearly
indicates in what magnitude and unit the output is displayed. Less
confusion, less mistakes.
```

e4fsprogs-1.41.1-2.el5

- Group: **System Environment/Base**
- Summary: **Utilities for managing the fourth extended (ext4) filesystem**
- Description:

```
The e4fsprogs package contains a number of utilities for creating,
checking, modifying, and correcting any inconsistencies in the
fourth extended (ext4) filesystem. E4fsprogs contains
e4fsck (used to repair filesystem inconsistencies after an unclean
shutdown), mke4fs (used to initialize a partition to contain an
empty ext4 filesystem), debugfs (used to examine the internal
structure of a filesystem, to manually repair a corrupted
filesystem, or to create test cases for e4fsck), tune4fs (used to
modify filesystem parameters), and most of the other core ext4fs
filesystem utilities.

Please note that "e4fsprogs" simply contains renamed static binaries
from the equivalent upstream e2fsprogs release; it is packaged this
way for Red Hat Enterprise Linux 5 to ensure that the many changes
included for ext4 do not destabilize the core e2fsprogs in RHEL5.

You should install the e4fsprogs package if you need to manage the
performance of an ext4 filesystem.
```

ecryptfs-utils-56-8.el5

- Group: **System Environment/Base**
- Summary: **The eCryptfs mount helper and support libraries**
- Description:

```
eCryptfs is a stacked cryptographic filesystem that ships in the
Linux kernel. This package provides the mount helper and supporting
libraries to perform key management and mount functions.

Install ecryptfs-utils if you would like to mount eCryptfs.
```

fipscheck-1.0.3-1.el5

- Group: **System Environment/Libraries**
- Summary: **A library for integrity verification of FIPS validated modules**
- Description:

```
FIPSCheck is a library for integrity verification of FIPS validated
modules. The package also provides helper binaries for creation and
verification of the HMAC-SHA256 checksum files.
```

freeipmi-0.5.1-6.el5

- Group: **Applications/System**
- Summary: **FreeIPMI**
- Description:

```
The FreeIPMI project provides "Remote-Console" (out-of-band) and
"System Management Software" (in-band) based on Intelligent
Platform Management Interface specification.

This package contains a Technology Preview for FreeIPMI. Please visit
http://www.redhat.com/support/service/ for details on the Red Hat
support
policies.
```

gcc43-4.3.2-7.el5

- Group: **Development/Languages**
- Summary: **Preview of GCC version 4.3**
- Description:

```
The gcc43 package contains preview the GNU Compiler Collection version
4.3.
```

gtk-vnc-0.3.2-3.el5

- Group: **Development/Libraries**
- Summary: **A GTK widget for VNC clients**
- Description:

```
gtk-vnc is a VNC viewer widget for GTK. It is built using coroutines
allowing it to be completely asynchronous while remaining single
threaded.
```

ibsim-0.4-3.el5

- Group: **System Environment/Libraries**
- Summary: **InfiniBand fabric simulator for management**
- Description:

```
ibsim provides simulation of infiniband fabric for using with OFA
OpenSM,
diagnostic and management tools.
```

infiniband-diags-1.4.1-2.el5

- Group: **System Environment/Libraries**
- Summary: **OpenFabrics Alliance InfiniBand Diagnostic Tools**
- Description:

```
This package provides IB diagnostic programs and scripts needed to
diagnose an IB subnet.
```

isns-utils-0.91-0.1.el5

- Group: **System Environment/Daemons**
- Summary: **The iSNS daemon and utility programs**
- Description:

```
The iSNS package contains the daemon and tools to setup a iSNS server,
and iSNS client tools. The Internet Storage Name Service (iSNS) protocol
allows automated discovery, management and configuration of iSCSI and
Fibre Channel devices (using iFCP gateways) on a TCP/IP network.
```

java-1.6.0-openjdk-1.6.0.0-0.25.b09.el5

- Group: **Development/Languages**
- Summary: **OpenJDK Runtime Environment**
- Description:

```
The OpenJDK runtime environment.
```

ktune-0.2-3.el5

- Group: **System Environment/Base**
- Summary: **Server performance tuning service**
- Description:

```
ktune provides settings for server performance tuning. Please have a
look at
/etc/sysconfig/ktune and /etc/sysctl.ktune for tuning
parameters.
```

libcmpiutil-0.4-2.el5

- Group: **System Environment/Libraries**
- Summary: **CMPI Utility Library**
- Description:

```
Libcmpiutil is a library of utility functions for CMPI providers.
The goal is to reduce the amount of repetitive work done in
most CMPI providers by encapsulating common procedures with more
"normal" APIs. This extends from operations like getting typed
instance properties to standardizing method dispatch and argument
checking.
```

libcxgb3-1.2.2-1.el5

- Group: **System Environment/Libraries**
- Summary: **Chelsio T3 iWARP HCA Userspace Driver**
- Description:

```
Userspace hardware driver for use with the libibverbs InfiniBand/iWARP
verbs
library. This driver enables Chelsio iWARP capable ethernet devices.
```

libehca-1.2-2.el5

- Group: **System Environment/Libraries**
- Summary: **IBM InfiniBand HCA Userspace Driver**
- Description:

```
IBM hardware driver for use with libibverbs user space verbs access
library.
```

libibcm-1.0.3-1.el5

- Group: **System Environment/Libraries**
- Summary: **Userspace InfiniBand Communication Manager.**
- Description:

```
libibcm provides a userspace InfiniBand Communication Managment library.
```

libibcommon-1.1.1-1.el5

- Group: **System Environment/Libraries**
- Summary: **OpenFabrics Alliance InfiniBand management common library**
- Description:

```
libibcommon provides common utility functions for the OFA diagnostic and
management tools.
```

libibmad-1.2.1-1.el5

- Group: **System Environment/Libraries**
- Summary: **OpenFabrics Alliance InfiniBand MAD library**
- Description:

```
libibmad provides low layer IB functions for use by the IB diagnostic
and management programs. These include MAD, SA, SMP, and other basic
IB functions.
```

libibumad-1.2.1-1.el5

- Group: **System Environment/Libraries**
- Summary: **OpenFabrics Alliance InfiniBand umad (user MAD) library**
- Description:

```
libibumad provides the user MAD library functions which sit on top of
the user MAD modules in the kernel. These are used by the IB diagnostic
and management tools, including OpenSM.
```

libibverbs-1.1.2-1.el5

- Group: **System Environment/Libraries**
- Summary: **Library providing access to InfiniBand/iWARP hardware verbs protocol**
- Description:

```
libibverbs is a library that allows userspace processes to use
InfiniBand/iWARP "verbs" as described in the InfiniBand Architecture
Specification. This includes direct hardware access for fast path
operations.

For this library to be useful, a device-specific plug-in module should
also be installed.
```

libipathverbs-1.1-11.el5

- Group: **System Environment/Libraries**
- Summary: **QLogic InfiniPath HCA Userspace Driver**
- Description:

```
QLogic hardware driver for use with libibverbs user space verbs access
library. This driver supports QLogic InfiniPath based cards.
```

libmlx4-1.0-4.el5

- Group: **System Environment/Libraries**
- Summary: **Mellanox ConnectX InfiniBand HCA Userspace Driver**
- Description:

```
Mellanox hardware driver for use with libibverbs user space verbs access
library. This driver supports Mellanox ConnectX architecture cards.
```

libmthca-1.0.5-1.el5

- Group: **System Environment/Libraries**
- Summary: **Mellanox InfiniBand HCA Userspace Driver**
- Description:

```
Mellanox hardware driver for use with libibverbs user space verbs access
library. This driver supports Mellanox based Single Data Rate and Dual
Data
Rate cards, including those from Cisco, Topspin, and Voltaire. It does
not support the Connect-X architecture based Quad Data Rate cards
(libmlx4
handles that hardware).
```

libnes-0.5-4.el5

- Group: **System Environment/Libraries**
- Summary: **NetEffect RNIC Userspace Driver**
- Description:

```
Userspace hardware driver for use with the libibverbs InfiniBand/iWARP
verbs
library. This driver enables NetEffect iWARP capable ethernet devices.
```

librdmacm-1.0.8-1.el5

- Group: **System Environment/Libraries**
- Summary: **Userspace RDMA Connection Manager.**
- Description:

```
librdmacm provides a userspace RDMA Communication Managment API.
```

libsdp-1.1.99-10.el5_2

- Group: **System Environment/Libraries**
- Summary: **A library for direct userspace use of Sockets Direct Protocol**
- Description:

```
libsdp is an LD_PRELOAD-able library that can be used to have existing
applications use InfiniBand Sockets Direct Protocol (SDP) instead of
TCP sockets, transparently and without recompilation. For information
on how to configure libsdp, see libsdp.conf, which is installed in
$(sysconfdir) (usually /usr/local/etc or /etc).
```

libsmi-0.4.5-2.el5

- Group: **System Environment/Libraries**
- Summary: **A library to access SMI MIB information**
- Description:

```
Libsmi is a C library to access MIB module information through
a well defined API that hides the nasty details of locating
and parsing SMIv1/v2 MIB modules.

This package contains tools to check, dump, and convert MIB
definitions and a steadily maintained and revised archive
of all IETF and IANA maintained standard MIB modules.
```

libspe2-2.2.80.121-4.el5

- Group: **System Environment/Base**
- Summary: **SPE Runtime Management Library**
- Description:

```
SPE Runtime Management Library for the
Cell Broadband Engine Architecture.
```

libvirt-cim-0.5.1-4.el5

- Group: **Development/Libraries**
- Summary: **A CIM provider for libvirt**
- Description:

```
Libvirt-cim is a CMPI CIM provider that implements the DMTF SVPC
virtualization model. The goal is to support most of the features
exported by libvirt itself, enabling management of multiple
platforms with a single provider.
```

mpi-selector-1.0.1-1.el5

- Group: **System Environment/Base**
- Summary: **Provides site-wide and per-user MPI implementation selection**
- Description:

```
A simple tool that allows system administrators to set a site-wide
default for which MPI implementation is to be used, but also allow
users to set their own default MPI implementation, thereby overriding
the site-wide default.

The default can be changed easily via the mpi-selector command --
editing of shell startup files is not required.
```

mpitests-3.0-2.el5

- Group: **Applications**
- Summary: **MPI Benchmarks and tests**
- Description:

```
Set of popular MPI benchmarks:
IMB-2.3
Presta-1.4.0
OSU benchmarks ver 2.2
```

mstflint-1.3-1.el5

- Group: **Applications/System**
- Summary: **Mellanox firmware burning tool**
- Description:

```
This package contains a burning tool for Mellanox manufactured HCA cards.
It also provides access to the relevant source code.
```

mvapich-1.1.0-0.2931.3.el5

- Group: **Development/Libraries**
- Summary: **MPI implementation over Infiniband RDMA-enabled interconnect**
- Description:

```
This is high performance and scalable MPI-1 implementation over
Infiniband and RDMA-enabled interconnect.
This implementation is based on MPICH and MVICH. MVAPICH is pronounced
as `em-vah-pich''.
```

mvapich2-1.0.3-3.el5

- Group: **Development/Libraries**
- Summary: **OSU MVAPICH2 MPI package**
- Description:

```
This is an MPI-2 implementation which includes all MPI-1 features. It is
based on MPICH2 and MVICH.
```

nedit-5.5-21.el5

- Group: **Applications/Editors**
- Summary: **A GUI text editor for systems with X**
- Description:

```
NEdit is a GUI text editor for the X Window System. NEdit is
very easy to use, especially if you are familiar with the
Macintosh(TM) or Microsoft(TM) Windows(TM) style of interface.
```

nspluginwrapper-0.9.91.5-22.el5

- Group: **Networking/WWW**

- Summary: **A compatibility layer for Netscape 4 plugins**
- Description:

```
nspluginwrapper makes it possible to use Netscape 4 compatible plugins
compiled for ppc into Mozilla for another architecture, e.g. x86_64.

This package consists in:
* npviewer: the plugin viewer
* npwrapper.so: the browser-side plugin
* mozilla-plugin-config: a tool to manage plugins installation and
update
```

ofed-docs-1.3.2-0.20080728.0355.1.el5

- Group: **Documentation/Man**
- Summary: **OpenFabrics Enterprise Distribution documentation**
- Description:

```
Documentation from OFED 1.3
```

opensm-3.2.2-3.el5

- Group: **System Environment/Daemons**
- Summary: **OpenIB InfiniBand Subnet Manager and management utilities**
- Description:

```
OpenSM is the OpenIB project's Subnet Manager for Infiniband networks.
The subnet manager is run as a system daemon on one of the machines in
the infiniband fabric to manage the fabric's routing state. This package
also contains various tools for diagnosing and testing Infiniband
networks
that can be used from any machine and do not need to be run on a machine
running the opensm daemon.
```

openswan-2.6.14-1.el5_2.1

- Group: **System Environment/Daemons**
- Summary: **Openswan IPSEC implementation**
- Description:

```
Openswan is a free implementation of IPSEC & IKE for Linux. IPSEC is
the Internet Protocol Security and uses strong cryptography to provide
both authentication and encryption services. These services allow you
to build secure tunnels through untrusted networks. Everything passing
through the untrusted net is encrypted by the ipsec gateway machine and
decrypted by the gateway at the other end of the tunnel. The resulting
tunnel is a virtual private network or VPN.

This package contains the daemons and userland tools for setting up
Openswan on a freeswan enabled kernel.
```

perftest-1.2-11.el5

- Group: **Productivity/Networking/Diagnostic**
- Summary: **IB Performance tests**
- Description:

```
gen2 uverbs microbenchmarks
```

perl-Archive-Zip-1.16-1.2.1

- Group: **Development/Libraries**
- Summary: **Perl library for accessing Zip archives**
- Description:

```
The Archive::Zip module allows a Perl program to create, manipulate,
read, and write Zip archive files.
Zip archives can be created, or you can read from existing zip files.
Once created, they can be written to files, streams, or strings.
Members can be added, removed, extracted, replaced, rearranged, and
enumerated. They can also be renamed or have their dates, comments,
or other attributes queried or modified. Their data can be compressed
or uncompressed as needed. Members can be created from members in
existing Zip files, or from existing directories, files, or strings.
```

perl-Config-General-2.40-1.el5

- Group: **Development/Libraries**
- Summary: **Generic configuration module for Perl**
- Description:

```
This module opens a config file and parses it's contents for
you. After parsing the module returns a hash structure which contains
the representation of the config file.
The format of config files supported by Config::General is inspired by
the well known apache config format, in fact, this module is 100%
read-compatible to apache configs, but you can also just use simple
name/value pairs in your config files.
In addition to the capabilities of a apache config file it supports
some enhancements such as here-documents, C- style comments or
multiline options. It is also possible to save the config back to
disk, which makes the module a perfect backend for configuration
interfaces.
It is possible to use variables in config files and there exists also
support for object oriented access to the configuration.
```

pexpect-2.3-1.el5

- Group: **Development/Languages**
- Summary: **Pure Python Expect-like module**
- Description:

```
Pexpect is a pure Python module for spawning child applications;
controlling
them; and responding to expected patterns in their output. Pexpect works
like
Don Libes' Expect. Pexpect allows your script to spawn a child
application and
control it as if a human were typing commands.

Pexpect can be used for automating interactive applications such as ssh,
ftp,
passwd, telnet, etc. It can be used to automate setup scripts for
duplicating
software package installations on different servers. And it can be used
for
automated software testing. Pexpect is in the spirit of Don Libes'
Expect, but
Pexpect is pure Python. Unlike other Expect-like modules for Python,
Pexpect
does not require TCL or Expect nor does it require C extensions to be
compiled.
It should work on any platform that supports the standard Python pty
module.
```

python-iniparse-0.2.3-4.el5

- Group: **Development/Libraries**
- Summary: **Python Module for Accessing and Modifying Configuration Data in INI files**
- Description:

```
iniparse is an INI parser for Python which is API compatible
with the standard library's ConfigParser, preserves structure of INI
files (order of sections & options, indentation, comments, and blank
lines are preserved when data is updated), and is more convenient to
use.
```

python-setuptools-0.6c5-2.el5

- Group: **Development/Languages**
- Summary: **Download, build, install, upgrade, and uninstall Python packages**
- Description:

```
setuptools is a collection of enhancements to the Python distutils that
allow
you to more easily build and distribute Python packages, especially ones
that
have dependencies on other packages.
```

qlvnictools-0.0.1-10.el5

- Group: **System Environment/Base**
- Summary: **VNIC ULP service**

- Description:

```
VNIC ULP service
```

qperf-0.4.1-2.el5

- Group: **Networking/Diagnostic**
- Summary: **Measure socket and RDMA performance**
- Description:

```
Measure socket and RDMA performance.
```

rsyslog-2.0.6-1.el5

- Group: **System Environment/Daemons**
- Summary: **Enhanced system logging and kernel message trapping daemons**
- Description:

```
Rsyslog is an enhanced multi-threaded syslogd supporting, among others,
MySQL,
syslog/tcp, RFC 3195, permitted sender lists, filtering on any message
part,
and fine grain output format control. It is quite compatible to stock
sysklogd
and can be used as a drop-in replacement. Its advanced features make it
suitable for enterprise-class, encryption protected syslog relay chains
while
at the same time being very easy to setup for the novice user.
```

setroubleshoot-plugins-2.0.4-2.el5

- Group: **Applications/System**
- Summary: **Analysis plugins for use with setroubleshoot**
- Description:

```
This package provides a set of analysis plugins for use with
setroubleshoot. Each plugin has the capacity to analyze SELinux AVC
data and system data to provide user friendly reports describing how
to interpret SELinux AVC denials.
```

sgpio-1.2.0_10-2.el5

- Group: **System Environment/Base**
- Summary: **SGPIO captive backplane tool**
- Description:

```
Intel SGPIO enclosure management utility
This package contains (part of) a Technology Preview for
Application for AHCI driver with SGPIO support.
Please visit http://www.redhat.com/support/service/ for details on the
Red Hat support policies.
```

srptools-0.0.4-2.el5

- Group: **System Environment/Base**
- Summary: **Tools for using the InfiniBand SRP protocol devices**
- Description:

```
In conjunction with the kernel ib_srp driver, srptools allows you to
discover and use SCSI devices via the SCSI RDMA Protocol over
InfiniBand.
```

system-config-netboot-0.1.45.1-1.el5

- Group: **Applications/System**
- Summary: **network booting/install configuration utility (GUI)**
- Description:

```
system-config-netboot is a utility which allows you to configure
diskless environments and network installations.
```

tpm-tools-1.3.1-1.el5

- Group: **Applications/System**
- Summary: **Management tools for the TPM hardware**
- Description:

```
tpm-tools is a group of tools to manage and utilize the Trusted
Computing
Group's TPM hardware. TPM hardware can create, store and use RSA keys
securely (without ever being exposed in memory), verify a platform's
software state using cryptographic hashes and more.
```

trousers-0.3.1-4.el5

- Group: **System Environment/Libraries**
- Summary: **TCG's Software Stack v1.2**
- Description:

```
TrouSerS is an implementation of the Trusted Computing Group's Software
Stack
(TSS) specification. You can use TrouSerS to write applications that make
use
of your TPM hardware. TPM hardware can create, store and use RSA keys
securely (without ever being exposed in memory), verify a platform's
software
state using cryptographic hashes and more.
```

tvflash-0.9.0-2.el5

- Group: **Applications/System**
- Summary: **Tool to manage Mellanox HCA firmware flash memory**
- Description:

```
tvflash is used to query and update the firmware flash memory attached
to Mellanox InfiniBand HCAs.
```

udftools-1.0.0b3-0.1.el5

- Group: **Applications/Archiving**
- Summary: **Linux UDF Filesystem userspace utilities**
- Description:

```
Linux UDF Filesystem userspace utilities.
```

virt-viewer-0.0.2-2.el5

- Group: **Applications/System**
- Summary: **Virtual Machine Viewer**
- Description:

```
Virtual Machine Viewer provides a graphical console client for
connecting
to virtual machines. It uses the GTK-VNC widget to provide the display,
and libvirt for looking up VNC server details.
```

wacomexpresskeys-0.4.1-1.el5

- Group: **System Environment/Base**
- Summary: **Wacom ExpressKeys and Touch Strips configuration utility**
- Description:

```
Configuration utility to bind Wacom tablet's ExpressKeys and Touch Strips
to
generate other input events.
```

wdaemon-0.14-2

- Group: **User Interface/X Hardware Support**
- Summary: **Hotplug helper for Wacom X.org driver**
- Description:

```
Helper application which emulates persistent input devices for Wacom
tablets
so they can be plugged and unplugged while X.org server is running. This
should
go away as soon X.org properly supports hotplugging.
```

xulrunner-1.9.0.5-1.el5_2

- Group: **Applications/Internet**
- Summary: **XUL Runtime for Gecko Applications**
- Description:

```
XULRunner provides the XUL Runtime environment for Gecko applications.
```

yum-updatesd-0.9-2.el5

- Group: **System Environment/Base**
- Summary: **Update notification daemon**
- Description:

```
yum-updatesd provides a daemon which checks for available updates and
can notify you when they are available via email, syslog or dbus.
```

11. Dropped Packages

cachefilesd-0.8-2.el5

- Group: **System Environment/Daemons**
- Summary: **CacheFiles userspace management daemon**
- Description:

```
The cachefilesd daemon manages the caching files and directory that are
that are used by network filesystems such a AFS and NFS to
do persistent caching to the local disk.
```

frysk-0.0.1.2007.06.21.rh2-4.el5

- Group: **Development/System**
- Summary: **Frysk execution analysis tool**
- Description:

```
Frysk is an execution-analysis technology implemented using native Java
and C++.
It is aimed at providing developers and sysadmins with the ability to
both
examine and analyze running multi-host, multi-process, multi-threaded
systems.
Frysk allows the monitoring of running processes and threads, of locking
primitives and will also expose deadlocks, gather data and debug any
given
process in the system.
```

gfs2-kmod-1.52-1.16.el5

- Group: **System Environment/Kernel**
- Summary: **gfs2 kernel module**
- Description:

```
GFS2 - The GFS2 filesystem provided for RHEL5.
```

sysreport-1.4.3-13.el5

- Group: **Development/Debuggers**
- Summary: **Gathers system hardware and configuration information.**
- Description:

```
Sysreport is a utility that gathers information about a system's
hardware and configuration. The information can then be used for
diagnostic purposes and debugging. Sysreport is commonly used to help
support technicians and developers by providing a "snapshot" of a
system's current layout.
```

12. Updated Packages

Cluster_Administration-5.1.0-7 - Cluster_Administration-5.2-1

- Group: **Documentation**
- Summary: **Red Hat Cluster for Red Hat Enterprise Linux**
- Description:

```
Configuring and Managing a Red Hat Cluster describes the configuration
and management of Red Hat cluster systems
for Red Hat Enterprise Linux 5.2 It does not include information about
Red Hat Linux
Virtual Servers (LVS). Information about installing and configuring
LVS is in a separate document.
```

- No added dependencies
- No removed dependencies

Deployment_Guide-5.1.0-11 - Deployment_Guide-5.2-11

- Group: **Documentation**
- Summary: **Deployment Guide**
- Description:

```
This Deployment Guide documents relevant information regarding the
deployment, configuration and administration of Red Hat Enterprise Linux
5.2.
```

- No added dependencies
- No removed dependencies

Global_File_System-5.1.0-6 - Global_File_System-5.2-1

- Group: **Documentation**
- Summary: **Red Hat Global File System**
- Description:

```
This book provides information about installing, configuring, and
maintaining Red Hat GFS (Red Hat Global File System) for Red Hat
Enterprise Linux 5.2.
```

- No added dependencies
- No removed dependencies

ImageMagick-6.2.8.0-3.el5.4 - ImageMagick-6.2.8.0-4.el5_1.1

- Group: **Applications/Multimedia**
- Summary: **An X application for displaying and manipulating images.**
- Description:

```
ImageMagick(TM) is an image display and manipulation tool for the X
Window System. ImageMagick can read and write JPEG, TIFF, PNM, GIF,
and Photo CD image formats. It can resize, rotate, sharpen, color
reduce, or add special effects to an image, and when finished you can
either save the completed work in the original format or a different
one. ImageMagick also includes command line programs for creating
animated or transparent .gifs, creating composite images, creating
thumbnail images, and more.

ImageMagick is one of your choices if you need a program to manipulate
and dis play images. If you want to develop your own applications
which use ImageMagick code or APIs, you need to install
ImageMagick-devel as well.
```

- No added dependencies
- No removed dependencies

NetworkManager-0.6.4-6.el5 - NetworkManager-0.7.0-3.el5

- Group: **System Environment/Base**

- Summary: **Network connection manager and user applications**
- Description:

```
NetworkManager attempts to keep an active network connection available at
all
times. It is intended only for the desktop use-case, and is not intended
for
usage on servers.  The point of NetworkManager is to make networking
configuration and setup as painless and automatic as possible. If using
DHCP,
NetworkManager is intended to replace default routes, obtain IP addresses
from a DHCP server, and change nameservers whenever it sees fit.
```

- Added Dependencies:
  - autoconf
  - automake
  - dbus-devel >= 1.1
  - dbus-glib-devel >= 0.73-6
  - dhclient
  - doxygen
  - gtk-doc
  - intltool
  - libdaemon-devel
  - libnotify-devel >= 0.4.2
  - libtool
  - nss-devel >= 3.11.7
  - perl(XML::Parser)
  - ppp >= 2.2.4
  - wireless-tools-devel >= 1:28-2
- Removed Dependencies:
  - dbus-devel >= 0.90
  - dbus-glib-devel >= 0.70
  - dhcdbd
  - gnome-panel-devel
  - libgnomeui-devel
  - libnl-devel
  - libnotify-devel >= 0.3
  - perl-XML-Parser
  - wireless-tools-devel >= 1:28-0pre9

ORBit2-2.14.3-4.el5 - ORBit2-2.14.3-5.el5

- Group: **System Environment/Daemons**
- Summary: **A high-performance CORBA Object Request Broker**
- Description:

```
ORBit is a high-performance CORBA (Common Object Request Broker
Architecture) ORB (object request broker). It allows programs to
send requests and receive replies from other programs, regardless
of the locations of the two programs. CORBA is an architecture that
enables communication between program objects, regardless of the
programming language they're written in or the operating system they
run on.

You will need to install this package and ORBit-devel if you want to
write programs that use CORBA technology.
```

- No added dependencies
- No removed dependencies

OpenIPMI-2.0.6-5.el5.4 - OpenIPMI-2.0.6-11.el5

- Group: **System Environment/Base**
- Summary: **OpenIPMI (Intelligent Platform Management Interface) library and tools**
- Description:

```
The Open IPMI project aims to develop an open code base to allow access
to
platform information using Intelligent Platform Management Interface
(IPMI).
This package contains the tools of the OpenIPMI project.
```

- No added dependencies
- No removed dependencies

SysVinit-2.86-14 - SysVinit-2.86-15.el5

- Group: **System Environment/Base**
- Summary: **Programs which control basic system processes.**
- Description:

```
The SysVinit package contains a group of processes that control
the very basic functions of your system. SysVinit includes the init
program, the first program started by the Linux kernel when the
system boots. Init then controls the startup, running, and shutdown
of all other programs.
```

- No added dependencies
- No removed dependencies

Virtualization-5.1.0-12 - Virtualization-5.2-11

- Group: **Documentation**
- Summary: **Virtualization Guide**
- Description:

```
The Red Hat Enterprise Linux Virtualization Guide contains
information on installation, configuring, administering, tips,
tricks and troubleshooting virtualization technologies used in Red
Hat Enterprise Linux.
```

- No added dependencies
- No removed dependencies

a2ps-4.13b-57.1.el5 - a2ps-4.13b-57.2.el5

- Group: **Applications/Publishing**
- Summary: **Converts text and other types of files to PostScript(TM).**
- Description:

```
The a2ps filter converts text and other types of files to PostScript(TM).
A2ps has pretty-printing capabilities and includes support for a wide
number of programming languages, encodings (ISO Latins, Cyrillic, etc.),
and medias.
```

- Added Dependencies:
  - psutils
- No removed dependencies

acl-2.2.39-2.1.el5 - acl-2.2.39-3.el5

- Group: **System Environment/Base**
- Summary: **Access control list utilities.**
- Description:

```
This package contains the getfacl and setfacl utilities needed for
manipulating access control lists.
```

- No added dependencies
- No removed dependencies

acpid-1.0.4-5 - acpid-1.0.4-7.el5

- Group: **System Environment/Daemons**
- Summary: **ACPI Event Daemon**
- Description:

```
acpid is a daemon that dispatches ACPI events to user-space programs.
```

- No added dependencies
- No removed dependencies

alsa-lib-1.0.14-1.rc4.el5 - alsa-lib-1.0.17-1.el5

- Group: **System Environment/Libraries**

- Summary: **The Advanced Linux Sound Architecture (ALSA) library.**
- Description:

```
The Advanced Linux Sound Architecture (ALSA) provides audio and MIDI
functionality to the Linux operating system.

This package includes the ALSA runtime libraries to simplify application
programming and provide higher level functionality as well as support
for
the older OSS API, providing binary compatibility for most OSS
programs.
```

- No added dependencies
- No removed dependencies

alsa-utils-1.0.14-2.rc4.el5 - alsa-utils-1.0.17-1.el5

- Group: **Applications/Multimedia**
- Summary: **Advanced Linux Sound Architecture (ALSA) utilities**
- Description:

```
This package contains command line utilities for the Advanced Linux Sound
Architecture (ALSA).
```

- Added Dependencies:
  - alsa-lib-devel >= 1.0.17
- Removed Dependencies:
  - alsa-lib-devel >= 1.0.14

amtu-1.0.4-4 - amtu-1.0.6-1.el5

- Group: **System Environment/Base**
- Summary: **Abstract Machine Test Utility (AMTU)**
- Description:

```
Abstract Machine Test Utility (AMTU) is an administrative utility to
check
whether the underlying protection mechanism of the hardware are still
being
enforced. This is a requirement of the Controlled Access Protection
Profile
FPT_AMT.1, see
http://www.radium.ncsc.mil/tpep/library/protection_profiles/CAPP-1.d.pdf
```

- No added dependencies
- No removed dependencies

anaconda-11.1.2.87-1 - anaconda-11.1.2.168-1

- Group: **Applications/System**
- Summary: **Graphical system installer**

- Description:

```
The anaconda package contains the program which was used to install your
system. These files are of little use on an already installed system.
```

- Added Dependencies:
  - iscsi-initiator-utils >= 6.2.0.868-0.9
  - kudzu-devel >= 1.2.57.1.18
  - libdhcp-devel >= 1.20-5
  - libnl-devel >= 1.0-0.10.pre5.5
- Removed Dependencies:
  - glib2-devel >= 2.11.1-5
  - kudzu-devel >= 1.2.57.1.15
  - libdhcp-devel >= 1.16

apr-util-1.2.7-6 - apr-util-1.2.7-7.el5

- Group: **System Environment/Libraries**
- Summary: **Apache Portable Runtime Utility library**
- Description:

```
The mission of the Apache Portable Runtime (APR) is to provide a
free library of C data structures and routines. This library
contains additional utility interfaces for APR; including support
for XML, LDAP, database interfaces, URI parsing and more.
```

- No added dependencies
- No removed dependencies

at-spi-1.7.11-2.fc6 - at-spi-1.7.11-3.el5

- Group: **System Environment/Libraries**
- Summary: **Assistive Technology Service Provider Interface**
- Description:

```
at-spi allows assistive technologies to access GTK-based
applications. Essentially it exposes the internals of applications for
automation, so tools such as screen readers, magnifiers, or even
scripting interfaces can query and interact with GUI controls.
```

- No added dependencies
- No removed dependencies

audit-1.5.5-7.el5 - audit-1.7.7-6.el5

- Group: **System Environment/Daemons**
- Summary: **User space tools for 2.6 kernel auditing**
- Description:

```
The audit package contains the user space utilities for
storing and searching the audit records generate by
the audit subsystem in the Linux 2.6 kernel.
```

- Added Dependencies:
  - openldap-devel
  - tcp_wrappers
- No removed dependencies

authconfig-5.3.12-2.el5 - authconfig-5.3.21-5.el5

- Group: **System Environment/Base**
- Summary: **Command line tool for setting up authentication from network services**
- Description:

```
Authconfig is a command line utility which can configure a workstation
to use shadow (more secure) passwords. Authconfig can also configure a
system to be a client for certain networked user information and
authentication schemes.
```

- Added Dependencies:
  - python >= 2.4.1
- Removed Dependencies:
  - python

autofs-5.0.1-0.rc2.55 - autofs-5.0.1-0.rc2.102

- Group: **System Environment/Daemons**
- Summary: **A tool for automatically mounting and unmounting filesystems.**
- Description:

```
autofs is a daemon which automatically mounts filesystems when you use
them, and unmounts them later when you are not using them. This can
include network filesystems, CD-ROMs, floppies, and so forth.
```

- No added dependencies
- No removed dependencies

bash-3.1-16.1 - bash-3.2-24.el5

- Group: **System Environment/Shells**
- Summary: **The GNU Bourne Again shell (bash) version 3.2**
- Description:

```
The GNU Bourne Again shell (Bash) is a shell or command language
interpreter that is compatible with the Bourne shell (sh). Bash
incorporates useful features from the Korn shell (ksh) and the C shell
(csh). Most sh scripts can be run by bash without modification. This
package (bash) contains bash version 3.2, which improves POSIX
compliance over previous versions.
```

- Added Dependencies:
  - autoconf
  - gettext
- No removed dependencies

bind-9.3.3-10.el5 - bind-9.3.4-10.P1.el5

- Group: **System Environment/Daemons**
- Summary: **The Berkeley Internet Name Domain (BIND) DNS (Domain Name System) server.**
- Description:

```
BIND (Berkeley Internet Name Domain) is an implementation of the DNS
(Domain Name System) protocols. BIND includes a DNS server (named),
which resolves host names to IP addresses; a resolver library
(routines for applications to use when interfacing with DNS); and
tools for verifying that the DNS server is operating properly.
```

- No added dependencies
- No removed dependencies

binutils-2.17.50.0.6-5.el5 - binutils-2.17.50.0.6-9.el5

- Group: **Development/Tools**
- Summary: **A GNU collection of binary utilities.**
- Description:

```
Binutils is a collection of binary utilities, including ar (for
creating, modifying and extracting from archives), as (a family of GNU
assemblers), gprof (for displaying call graph profile data), ld (the
GNU linker), nm (for listing symbols from object files), objcopy (for
copying and translating object files), objdump (for displaying
information from object files), ranlib (for generating an index for
the contents of an archive), size (for listing the section sizes of an
object or archive file), strings (for listing printable strings from
files), strip (for discarding symbols), and addr2line (for converting
addresses to file and line).
```

- No added dependencies
- No removed dependencies

bluez-libs-3.7-1 - bluez-libs-3.7-1.1

- Group: **System Environment/Libraries**

- Summary: **Bluetooth libraries**
- Description:

```
Libraries for use in Bluetooth applications.

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```

- No added dependencies
- No removed dependencies

bluez-utils-3.7-2 - bluez-utils-3.7-2.2

- Group: **Applications/System**
- Summary: **Bluetooth utilities**
- Description:

```
Bluetooth utilities (bluez-utils):
- hcitool
- hciattach
- hciconfig
- hcid
- l2ping
- start scripts (Red Hat)
- pcmcia configuration files

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```

- Added Dependencies:
  - bluez-libs-devel >= 3.7-1.1
- Removed Dependencies:
  - bluez-libs-devel >= 3.7

booty-0.80.4-5 - booty-0.80.6-5

- Group: **System Environment/Libraries**
- Summary: **simple python bootloader config lib**
- Description:

```
Small python library for use with bootloader configuration by anaconda
and up2date.
```

- No added dependencies
- No removed dependencies

busybox-1.2.0-3 - busybox-1.2.0-4.el5

- Group: **System Environment/Shells**
- Summary: **Statically linked binary providing simplified versions of system commands**
- Description:

```
Busybox is a single binary which includes versions of a large number
of system commands, including a shell. This package can be very
useful for recovering from certain types of system failures,
particularly those involving broken shared libraries.
```

- No added dependencies
- No removed dependencies

bzip2-1.0.3-3 - bzip2-1.0.3-4.el5_2

- Group: **Applications/File**
- Summary: **A file compression utility.**
- Description:

```
Bzip2 is a freely available, patent-free, high quality data compressor.
Bzip2 compresses files to within 10 to 15 percent of the capabilities
of the best techniques available. However, bzip2 has the added benefit
of being approximately two times faster at compression and six times
faster at decompression than those techniques. Bzip2 is not the
fastest compression utility, but it does strike a balance between speed
and compression capability.

Install bzip2 if you need a compression utility.
```

- No added dependencies
- No removed dependencies

cairo-1.2.4-2.el5 - cairo-1.2.4-5.el5

- Group: **System Environment/Libraries**
- Summary: **A vector graphics library**
- Description:

```
Cairo is a vector graphics library designed to provide high-quality
display and print output. Currently supported output targets include
the X Window System, OpenGL (via glitz), in-memory image buffers, and
image files (PDF, PostScript, and SVG). Cairo is designed to produce
identical output on all output media while taking advantage of display
hardware acceleration when available (eg. through the X Render
Extension or OpenGL).
```

- No added dependencies
- No removed dependencies

ccid-1.0.1-6.el5 - ccid-1.3.8-1.el5

- Group: **System Environment/Libraries**
- Summary: **Generic USB CCID smart card reader driver**
- Description:

```
Generic USB CCID (Chip/Smart Card Interface Devices) driver.
```

- Added Dependencies:
  - pcsc-lite-devel >= 1.3.3
- Removed Dependencies:
  - pcsc-lite-devel >= %{pcsc-lite_ver}

cdrtools-2.01-10 - cdrtools-2.01-10.7.el5

- Group: **Applications/System**
- Summary: **A collection of CD/DVD utilities.**
- Description:

```
cdrtools is a collection of CD/DVD utilities.
```

- No added dependencies
- No removed dependencies

checkpolicy-1.33.1-2.el5 - checkpolicy-1.33.1-4.el5

- Group: **Development/System**
- Summary: **SELinux policy compiler**
- Description:

```
Security-enhanced Linux is a feature of the Linux® kernel and a number
of utilities with enhanced security functionality designed to add
mandatory access controls to Linux. The Security-enhanced Linux
kernel contains new architectural components originally developed to
improve the security of the Flask operating system. These
architectural components provide general support for the enforcement
of many kinds of mandatory access control policies, including those
based on the concepts of Type Enforcement®, Role-based Access
Control, and Multi-level Security.

This package contains checkpolicy, the SELinux policy compiler.
Only required for building policies.
```

- No added dependencies
- No removed dependencies

chkconfig-1.3.30.1-1 - chkconfig-1.3.30.1-2

- Group: **System Environment/Base**
- Summary: **A system tool for maintaining the /etc/rc*.d hierarchy.**
- Description:

```
Chkconfig is a basic system utility. It updates and queries runlevel
information for system services. Chkconfig manipulates the numerous
symbolic links in /etc/rc.d, to relieve system administrators of some
of the drudgery of manually editing the symbolic links.
```

- No added dependencies
- No removed dependencies

clustermon-0.10.0-5.el5 - clustermon-0.12.1-2.el5

- Group: **System Environment/Base**
- Summary: **Monitoring and management of Red Hat Enterprise Linux Cluster Suite**
- Description:

```
This package contains Red Hat Enterprise Linux Cluster Suite
SNMP/CIM module/agent/provider.
```

- Added Dependencies:
  - cman-devel
- No removed dependencies

cman-2.0.73-1.el5 - cman-2.0.98-1.el5

- Group: **System Environment/Base**
- Summary: **cman - The Cluster Manager**
- Description:

```
cman - The Cluster Manager
```

- Added Dependencies:
  - kernel-headers
- No removed dependencies

conga-0.10.0-6.el5 - conga-0.12.1-7.el5

- Group: **System Environment/Base**
- Summary: **Remote Management System**
- Description:

```
Conga is a project developing management system for remote stations.
It consists of luci, https frontend, and ricci, secure daemon that
dispatches
incoming messages to underlying management modules.
```

- No added dependencies
- Removed Dependencies:
  - cman-devel

control-center-2.16.0-14.el5 - control-center-2.16.0-16.el5

- Group: **User Interface/Desktops**
- Summary: **GNOME Control Center**
- Description:

```
GNOME (the GNU Network Object Model Environment) is an attractive and
easy-to-use GUI desktop environment. The control-center package
provides the GNOME Control Center utilities that allow you to setup
and configure your system's GNOME environment (things like the desktop
background and theme, the screensaver, system sounds, and mouse
behavior).

If you install GNOME, you need to install control-center.
```

- No added dependencies
- No removed dependencies

coolkey-1.1.0-5.el5 - coolkey-1.1.0-6.el5

- Group: **System Environment/Libraries**
- Summary: **CoolKey PKCS #11 module**
- Description:

```
Linux Driver support for the CoolKey and CAC products.
```

- No added dependencies
- No removed dependencies

coreutils-5.97-12.1.el5 - coreutils-5.97-19.el5

- Group: **System Environment/Base**
- Summary: **The GNU core utilities: a set of tools commonly used in shell scripts**
- Description:

```
These are the GNU core utilities. This package is the combination of
the old GNU fileutils, sh-utils, and textutils packages.
```

- No added dependencies
- No removed dependencies

cpufreq-utils-002-1.1.43.el5 - cpufreq-utils-005-1.el5

- Group: **System Environment/Base**
- Summary: **CPU Frequency changing related utilities**
- Description:

```
cpufreq-utils contains several utilities that can be used to control
the cpufreq interface provided by the kernel on hardware that
supports CPU frequency scaling.
```

- No added dependencies
- No removed dependencies

cpuspeed-1.2.1-1.48.el5 - cpuspeed-1.2.1-5.el5

- Group: **System Environment/Base**
- Summary: **CPU frequency adjusting daemon**
- Description:

```
cpuspeed is a daemon that dynamically changes the speed
of your processor(s) depending upon its current workload
if it is capable (needs Intel Speedstep, AMD PowerNow!,
or similar support).

This package also supports enabling cpu frequency scaling
via in-kernel governors on Intel Centrino and AMD
Athlon64/Opteron platforms.
```

- No added dependencies
- No removed dependencies

crash-4.0-4.6.1 - crash-4.0-7.2.3

- Group: **Development/Debuggers**
- Summary: **crash utility for live systems; netdump, diskdump, kdump, LKCD or mcore dumpfiles**
- Description:

```
The core analysis suite is a self-contained tool that can be used to
investigate either live systems, kernel core dumps created from the
netdump, diskdump and kdump packages from Red Hat Linux, the mcore
kernel patch
offered by Mission Critical Linux, or the LKCD kernel patch.
```

- No added dependencies
- No removed dependencies

createrepo-0.4.4-2.fc6 - createrepo-0.4.11-3.el5

- Group: **System Environment/Base**
- Summary: **Creates a common metadata repository**
- Description:

```
This utility will generate a common metadata repository from a directory
of rpm
packages.
```

- Added Dependencies:
  - python
- No removed dependencies

crypto-utils-2.3-1 - crypto-utils-2.3-2.el5

- Group: **Applications/System**
- Summary: **SSL certificate and key management utilities**

- Description:

```
This package provides tools for managing and generating
SSL certificates and keys.
```

- No added dependencies
- No removed dependencies

cryptsetup-luks-1.0.3-2.2.el5 - cryptsetup-luks-1.0.3-4.el5

- Group: **Applications/System**
- Summary: **A utility for setting up encrypted filesystems**
- Description:

```
This package contains cryptsetup, a utility for setting up
encrypted filesystems using Device Mapper and the dm-crypt target.
```

- No added dependencies
- No removed dependencies

cups-1.2.4-11.14.el5 - cups-1.3.7-8.el5

- Group: **System Environment/Daemons**
- Summary: **Common Unix Printing System**
- Description:

```
The Common UNIX Printing System provides a portable printing layer for
UNIX® operating systems. It has been developed by Easy Software Products
to promote a standard printing solution for all UNIX vendors and users.
CUPS provides the System V and Berkeley command-line interfaces.
```

- Added Dependencies:
  - avahi-compat-libdns_sd-devel
  - krb5-devel
- No removed dependencies

cyrus-imapd-2.3.7-1.1.el5 - cyrus-imapd-2.3.7-2.el5

- Group: **System Environment/Daemons**
- Summary: **A high-performance mail server with IMAP, POP3, NNTP and SIEVE support**
- Description:

```
The cyrus-imapd package contains the core of the Cyrus IMAP server.
It is a scaleable enterprise mail system designed for use from
small to large enterprise environments using standards-based
internet mail technologies.

A full Cyrus IMAP implementation allows a seamless mail and bulletin
board environment to be set up across multiple servers. It differs from
other IMAP server implementations in that it is run on "sealed"
servers, where users are not normally permitted to log in and have no
system account on the server. The mailbox database is stored in parts
of the filesystem that are private to the Cyrus IMAP server. All user
access to mail is through software using the IMAP, POP3 or KPOP
protocols. It also includes support for virtual domains, NNTP,
mailbox annotations, and much more. The private mailbox database design
gives the server large advantages in efficiency, scalability and
administratability. Multiple concurrent read/write connections to the
same mailbox are permitted. The server supports access control lists on
mailboxes and storage quotas on mailbox hierarchies.

The Cyrus IMAP server supports the IMAP4rev1 protocol described
in RFC 3501. IMAP4rev1 has been approved as a proposed standard.
It supports any authentication mechanism available from the SASL
library, imaps/pop3s/nntps (IMAP/POP3/NNTP encrypted using SSL and
TLSv1) can be used for security. The server supports single instance
store where possible when an email message is addressed to multiple
recipients, SIEVE provides server side email filtering.
```

- No added dependencies
- No removed dependencies

dbus-1.0.0-6.el5 - dbus-1.1.2-12.el5

- Group: **System Environment/Libraries**
- Summary: **D-BUS message bus**
- Description:

```
D-BUS is a system for sending messages between applications. It is
used both for the systemwide message bus service, and as a
per-user-login-session messaging facility.
```

- Added Dependencies:
  - doxygen
  - libxslt
  - xmlto
- No removed dependencies

dbus-glib-0.70-5 - dbus-glib-0.73-8.el5

- Group: **System Environment/Libraries**
- Summary: **GLib bindings for D-Bus**
- Description:

```
D-Bus add-on library to integrate the standard D-Bus library with
the GLib thread abstraction and main loop.
```

- No added dependencies
- No removed dependencies

desktop-printing-0.19-20.el5 - desktop-printing-0.19-20.2.el5

- Group: **Applications/File**
- Summary: **Desktop print icon**
- Description:

```
Desktop-printing contains eggcups, a program for user print job
notification and control.
```

- No added dependencies
- No removed dependencies

devhelp-0.12-11.el5 - devhelp-0.12-20.el5

- Group: **Development/Tools**
- Summary: **API document browser**
- Description:

```
An API document browser for GNOME 2.
```

- Added Dependencies:
  - gecko-devel-unstable >= 1.9
- Removed Dependencies:
  - gecko-devel = 1.8.0.12

device-mapper-1.02.20-1.el5 - device-mapper-1.02.28-2.el5

- Group: **System Environment/Base**
- Summary: **device mapper library**
- Description:

```
This package contains the supporting userspace files (libdevmapper and
dmsetup) for the device-mapper.
```

- No added dependencies
- No removed dependencies

device-mapper-multipath-0.4.7-12.el5 - device-mapper-multipath-0.4.7-23.el5

- Group: **System Environment/Base**
- Summary: **Tools to manage multipath devices using device-mapper.**
- Description:

```
device-mapper-multipath provides tools to manage multipath devices by
instructing the
device-mapper multipath kernel module what to do.
The tools are :
* multipath :  Scan the system for multipath devices and assemble them.
* multipathd : Detects when paths fail and execs multipath to update
things.
```

- No added dependencies
- No removed dependencies

dhcdbd-2.2-1.el5 - dhcdbd-2.2-2.el5

- Group: **System Environment/Daemons**
- Summary: **DHCP D-BUS daemon (dhcdbd) controls dhclient sessions with D-BUS, stores and presents DHCP options.**
- Description:

```
dhcdbd provides a D-BUS interface to the ISC dhclient software. The
daemon provides access to DHCP configuration operations and stores those
options persistently. Other D-BUS applications can receive notifications
of changes in the client's DHCP configuration.
```

- No added dependencies
- No removed dependencies

dhcp-3.0.5-7.el5 - dhcp-3.0.5-18.el5

- Group: **System Environment/Daemons**
- Summary: **DHCP (Dynamic Host Configuration Protocol) server and relay agent.**
- Description:

```
DHCP (Dynamic Host Configuration Protocol) is a protocol which allows
individual devices on an IP network to get their own network
configuration information (IP address, subnetmask, broadcast address,
etc.) from a DHCP server. The overall purpose of DHCP is to make it
easier to administer a large network. The dhcp package includes the
ISC DHCP service and relay agent.

To use DHCP on your network, install a DHCP service (or relay agent),
and on clients run a DHCP client daemon. The dhcp package provides
the ISC DHCP service and relay agent.
```

- No added dependencies
- No removed dependencies

dhcpv6-0.10-33.el5 - dhcpv6-1.0.10-16.el5

- Group: **System Environment/Daemons**
- Summary: **DHCPv6 - DHCP server and client for IPv6**

- Description:

```
Implements the Dynamic Host Configuration Protocol (DHCP) for Internet
Protocol version 6 (IPv6) networks in accordance with RFC 3315: Dynamic
Host
Configuration Protocol for IPv6 (DHCPv6). Consists of dhcp6s(8), the
server
DHCP daemon, and dhcp6r(8), the DHCPv6 relay agent.

Install this package if you want to support dynamic configuration of IPv6
addresses and parameters on your IPv6 network.
```

- Added Dependencies:
  - kernel-headers
- Removed Dependencies:
  - openssl-devel

diffstat-1.41-1.2.2 - diffstat-1.41-1.2.3.el5

- Group: **Development/Tools**
- Summary: **A utility which provides statistics based on the output of diff.**
- Description:

```
The diff command compares files line by line. Diffstat reads the
output of the diff command and displays a histogram of the insertions,
deletions and modifications in each file. Diffstat is commonly used
to provide a summary of the changes in large, complex patch files.

Install diffstat if you need a program which provides a summary of the
diff command's output. You'll need to also install diffutils.
```

- No added dependencies
- No removed dependencies

diffutils-2.8.1-15.2.2 - diffutils-2.8.1-15.2.3.el5

- Group: **Applications/Text**
- Summary: **A GNU collection of diff utilities.**
- Description:

```
Diffutils includes four utilities: diff, cmp, diff3 and sdiff. Diff
compares two files and shows the differences, line by line. The cmp
command shows the offset and line numbers where two files differ, or
cmp can show the characters that differ between the two files. The
diff3 command shows the differences between three files. Diff3 can be
used when two people have made independent changes to a common
original; diff3 can produce a merged file that contains both sets of
changes and warnings about conflicts. The sdiff command can be used
to merge two files interactively.

Install diffutils if you need to compare text files.
```

- No added dependencies
- No removed dependencies

dmraid-1.0.0.rc13-4.el5 - dmraid-1.0.0.rc13-33.el5

- Group: **System Environment/Base**
- Summary: **dmraid (Device-mapper RAID tool and library)**
- Description:

```
DMRAID supports RAID device discovery, RAID set activation and display
of
properties for ATARAID on Linux >= 2.4 using device-mapper.
```

- No added dependencies
- No removed dependencies

dnsmasq-2.39-2.el5 - dnsmasq-2.45-1.el5_2.1

- Group: **System Environment/Daemons**
- Summary: **A lightweight DHCP/caching DNS server**
- Description:

```
Dnsmasq is lightweight, easy to configure DNS forwarder and DHCP server.
It is designed to provide DNS and, optionally, DHCP, to a small network.
It can serve the names of local machines which are not in the global
DNS. The DHCP server integrates with the DNS server and allows machines
with DHCP-allocated addresses to appear in the DNS with names configured
either in each host or in a central configuration file. Dnsmasq supports
static and dynamic DHCP leases and BOOTP for network booting of diskless
machines.
```

- No added dependencies
- No removed dependencies

dosfstools-2.11-6.2.el5 - dosfstools-2.11-7.el5

- Group: **Applications/System**
- Summary: **Utilities for making and checking MS-DOS FAT filesystems on Linux.**
- Description:

```
The dosfstools package includes the mkdosfs and dosfsck utilities,
which respectively make and check MS-DOS FAT filesystems on hard
drives or on floppies.
```

- No added dependencies
- No removed dependencies

dovecot-1.0-1.2.rc15.el5 - dovecot-1.0.7-7.el5

- Group: **System Environment/Daemons**

- Summary: **Dovecot Secure imap server**
- Description:

```
Dovecot is an IMAP server for Linux/UNIX-like systems, written with
security
primarily in mind. It also contains a small POP3 server. It supports
mail
in either of maildir or mbox formats.
```

- No added dependencies
- No removed dependencies

dvgrab-2.0-1.2.2 - dvgrab-3.0-1.el5

- Group: **Applications/Multimedia**
- Summary: **Utility to capture video from a DV camera**
- Description:

```
The dvgrab utility will capture digital video from a DV source on the
firewire
(IEEE-1394) bus.
```

- No added dependencies
- No removed dependencies

e2fsprogs-1.39-10.el5 - e2fsprogs-1.39-20.el5

- Group: **System Environment/Base**
- Summary: **Utilities for managing the second and third extended (ext2/ext3) filesystems**
- Description:

```
The e2fsprogs package contains a number of utilities for creating,
checking, modifying, and correcting any inconsistencies in second
and third extended (ext2/ext3) filesystems. E2fsprogs contains
e2fsck (used to repair filesystem inconsistencies after an unclean
shutdown), mke2fs (used to initialize a partition to contain an
empty ext2 filesystem), debugfs (used to examine the internal
structure of a filesystem, to manually repair a corrupted
filesystem, or to create test cases for e2fsck), tune2fs (used to
modify filesystem parameters), and most of the other core ext2fs
filesystem utilities.

You should install the e2fsprogs package if you need to manage the
performance of an ext2 and/or ext3 filesystem.
```

- No added dependencies
- No removed dependencies

eclipse-3.2.1-18.el5 - eclipse-3.2.1-19.el5

- Group: **Text Editors/Integrated Development Environments (IDE)**

- Summary: **An open, extensible IDE**
- Description:

```
The Eclipse Platform is designed for building integrated development
environments (IDEs) that can be used to create applications as diverse
as web sites, embedded Java(tm) programs, C++ programs, and Enterprise
JavaBeans(tm).
```

- No added dependencies
- Removed Dependencies:
  - firefox-devel
  - nspr-devel

ed-0.2-38.2.2 - ed-0.2-39.el5_2

- Group: **Applications/Text**
- Summary: **The GNU line editor.**
- Description:

```
Ed is a line-oriented text editor, used to create, display, and modify
text files (both interactively and via shell scripts). For most
purposes, ed has been replaced in normal usage by full-screen editors
(emacs and vi, for example).

Ed was the original UNIX editor, and may be used by some programs. In
general, however, you probably don't need to install it and you probably
won't use it.
```

- No added dependencies
- No removed dependencies

edac-utils-0.9-5.el5 - edac-utils-0.9-6.el5

- Group: **System Environment/Base**
- Summary: **Userspace helper for kernel EDAC drivers**
- Description:

```
EDAC is the current set of drivers in the Linux kernel that handle
detection of ECC errors from memory controllers for most chipsets
on i386 and x86_64 architectures. This userspace component consists
of an init script which makes sure EDAC drivers and DIMM labels
are loaded at system startup, as well as a library and utility
for reporting current error counts from the EDAC sysfs files.
```

- No added dependencies
- No removed dependencies

elfutils-0.125-3.el5 - elfutils-0.137-3.el5

- Group: **Development/Tools**
- Summary: **A collection of utilities and DSOs to handle compiled**

objects

- Description:

```
Elfutils is a collection of utilities, including ld (a linker),
nm (for listing symbols from object files), size (for listing the
section sizes of an object or archive file), strip (for discarding
symbols), readelf (to see the raw ELF file structures), and elflint
(to check for well-formed ELF files).
```

- No added dependencies
- No removed dependencies

emacs-21.4-19.el5 - emacs-21.4-20.el5

- Group: **Applications/Editors**
- Summary: **GNU Emacs text editor**
- Description:

```
Emacs is a powerful, customizable, self-documenting, modeless text
editor. Emacs contains special code editing features, a scripting
language (elisp), and the capability to read mail, news, and more
without leaving the editor.

This package provides an emacs binary with support for X windows.
```

- No added dependencies
- No removed dependencies

emacspeak-23.0-2.1 - emacspeak-23.0-3.el5

- Group: **Applications/Editors**
- Summary: **emacspeak -- The Complete Audio Desktop**
- Description:

```
Emacspeak is a speech interface that allows visually impaired users to
interact independently and efficiently with the computer. Emacspeak has
dramatically changed how the author and hundreds of blind and visually
impaired users around the world interact with the personal computer and
the Internet. A rich suite of task-oriented speech-enabled tools provides
efficient speech-enabled access to the evolving semantic WWW.
When combined with Linux running on low-cost PC hardware,
Emacspeak/Linux provides a reliable, stable speech-friendly solution
that
opens up the Internet to visually impaired users around the world.
```

- No added dependencies
- No removed dependencies

enscript-1.6.4-4.1.el5 - enscript-1.6.4-4.1.1.el5_2

- Group: **Applications/Publishing**
- Summary: **A plain ASCII to PostScript converter.**

- Description:

```
GNU enscript is a free replacement for Adobe's Enscript
program. Enscript converts ASCII files to PostScript(TM) and spools
generated PostScript output to the specified printer or saves it to a
file. Enscript can be extended to handle different output media and
includes many options for customizing printouts.
```

- No added dependencies
- No removed dependencies

esc-1.0.0-32.el5 - esc-1.0.0-39.el5

- Group: **Applications/Internet**
- Summary: **Enterprise Security Client Smart Card Client**
- Description:

```
Enterprise Security Client allows the user to enroll and manage their
cryptographic smartcards.
```

- Added Dependencies:
  - xulrunner
  - xulrunner-devel
- No removed dependencies

ethtool-5-1.el5 - ethtool-6-2.el5

- Group: **Applications/System**
- Summary: **Ethernet settings tool for PCI ethernet cards**
- Description:

```
This utility allows querying and changing of ethernet
card settings, such as speed, port, autonegotiation,
and PCI locations.
```

- No added dependencies
- No removed dependencies

evolution-data-server-1.8.0-25.el5 - evolution-data-server-1.12.3-6.el5_2.3

- Group: **System Environment/Libraries**
- Summary: **Backend data server for Evolution**
- Description:

```
The evolution-data-server package provides a unified backend for
programs
that work with contacts, tasks, and calendar information.

It was originally developed for Evolution (hence the name), but is now
used
by other packages.
```

- Added Dependencies:
  - gtk-doc
  - intltool >= 0.35.0
  - openldap-evolution-devel
  - openssl-devel
- Removed Dependencies:
  - intltool
  - openldap-devel >= 2.0.11

file-4.17-9.0.1.el5 - file-4.17-15

- Group: **Applications/File**
- Summary: **A utility for determining file types.**
- Description:

```
The file command is used to identify a particular file according to the
type of data contained by the file. File can identify many different
file types, including ELF binaries, system libraries, RPM packages, and
different graphics formats.

You should install the file package, since the file command is such a
useful utility.
```

- No added dependencies
- No removed dependencies

filesystem-2.4.0-1 - filesystem-2.4.0-2

- Group: **System Environment/Base**
- Summary: **The basic directory layout for a Linux system.**
- Description:

```
The filesystem package is one of the basic packages that is installed
on a Red Hat Linux system. Filesystem contains the basic directory
layout for a Linux operating system, including the correct permissions
for the directories.
```

- No added dependencies
- No removed dependencies

findutils-4.2.27-4.1 - findutils-4.2.27-5.el5

- Group: **Applications/File**
- Summary: **The GNU versions of find utilities (find and xargs).**
- Description:

```
The findutils package contains programs which will help you locate
files on your system. The find utility searches through a hierarchy
of directories looking for files which match a certain set of criteria
(such as a filename pattern). The xargs utility builds and executes
command lines from standard input arguments (usually lists of file
names generated by the find command).

You should install findutils because it includes tools that are very
useful for finding things on your system.
```

- No added dependencies
- No removed dependencies

firefox-1.5.0.12-3.el5 - firefox-3.0.5-1.el5_2

- Group: **Applications/Internet**
- Summary: **Mozilla Firefox Web browser**
- Description:

```
Mozilla Firefox is an open-source web browser, designed for standards
compliance, performance and portability.
```

- Added Dependencies:
  - startup-notification-devel
  - xulrunner-devel >= 1.9.0.5-1
  - xulrunner-devel-unstable >= 1.9.0.5-1
- Removed Dependencies:
  - cairo-devel >= 0.5
  - libjpeg-devel
  - libpng-devel
  - nspr-devel >= 4.6
  - nss-devel >= 3.11.1
  - zlib-devel

firstboot-1.4.27.3-1.el5 - firstboot-1.4.27.7-1.el5

- Group: **System Environment/Base**
- Summary: **Initial system configuration utility**
- Description:

```
The firstboot utility runs after installation. It guides the
user through a series of steps that allows for easier
configuration of the machine.
```

- No added dependencies
- No removed dependencies

flac-1.1.2-27 - flac-1.1.2-28.el5_0.1

- Group: **Applications/Multimedia**
- Summary: **An encoder/decoder for the Free Lossless Audio Codec.**
- Description:

```
FLAC stands for Free Lossless Audio Codec. Grossly oversimplified, FLAC
is similar to Ogg Vorbis, but lossless. The FLAC project consists of
the stream format, reference encoders and decoders in library form,
flac, a command-line program to encode and decode FLAC files, metaflac,
a command-line metadata editor for FLAC files and input plugins for
various music players.
```

- No added dependencies
- No removed dependencies

fontconfig-2.4.1-6.el5 - fontconfig-2.4.1-7.el5

- Group: **System Environment/Libraries**
- Summary: **Font configuration and customization library**
- Description:

```
Fontconfig is designed to locate fonts within the
system and select them according to requirements specified by
applications.
```

- No added dependencies
- No removed dependencies

fonts-indic-2.0.13-1.el5 - fonts-indic-2.3.1-1.el5

- Group: **User Interface/X**
- Summary: **Free Indian truetype/opentype fonts**
- Description:

```
This package provides the Hindi, Bengali, Gujarati, Punjabi, Tamil,
Kannada, Malayalam, Oriya, Telugu TrueType/Opentype fonts.
```

- No added dependencies
- No removed dependencies

freeradius-1.1.3-1.2.el5 - freeradius-1.1.3-1.4.el5

- Group: **System Environment/Daemons**
- Summary: **High-performance and highly configurable free RADIUS server.**
- Description:

```
The FreeRADIUS Server Project is a high performance and highly
configurable
GPL'd free RADIUS server. The server is similar in some respects to
Livingston's 2.0 server. While FreeRADIUS started as a variant of the
Cistron RADIUS server, they don't share a lot in common any more. It now
has
many more features than Cistron or Livingston, and is much more
configurable.

FreeRADIUS is an Internet authentication daemon, which implements the
RADIUS
protocol, as defined in RFC 2865 (and others). It allows Network Access
Servers (NAS boxes) to perform authentication for dial-up users. There
are
also RADIUS clients available for Web servers, firewalls, Unix logins,
and
more. Using RADIUS allows authentication and authorization for a network
to
be centralized, and minimizes the amount of re-configuration which has
to be
done when adding or deleting new users.
```

- No added dependencies
- No removed dependencies

freetype-2.2.1-19.el5 - freetype-2.2.1-20.el5_2

- Group: **System Environment/Libraries**
- Summary: **A free and portable font rendering engine**
- Description:

```
The FreeType engine is a free and portable font rendering
engine, developed to provide advanced font support for a variety of
platforms and environments. FreeType is a library which can open and
manages font files as well as efficiently load, hint and render
individual glyphs. FreeType is not a font server or a complete
text-rendering library.
```

- No added dependencies
- No removed dependencies

ftp-0.17-33.fc6 - ftp-0.17-35.el5

- Group: **Applications/Internet**
- Summary: **The standard UNIX FTP (File Transfer Protocol) client.**
- Description:

```
The ftp package provides the standard UNIX command-line FTP (File
Transfer Protocol) client. FTP is a widely used protocol for
transferring files over the Internet and for archiving files.

If your system is on a network, you should install ftp in order to do
file transfers.
```

- No added dependencies
- No removed dependencies

gcc-4.1.2-14.el5 - gcc-4.1.2-44.el5

- Group: **Development/Languages**
- Summary: **Various compilers (C, C++, Objective-C, Java, ...)**
- Description:

```
The gcc package contains the GNU Compiler Collection version 4.1.
You'll need this package in order to compile C code.
```

- Added Dependencies:
  - xulrunner-devel
- Removed Dependencies:
  - firefox-devel

gd-2.0.33-9.3.fc6 - gd-2.0.33-9.4.el5_1.1

- Group: **System Environment/Libraries**
- Summary: **A graphics library for quick creation of PNG or JPEG images**
- Description:

```
The gd graphics library allows your code to quickly draw images
complete with lines, arcs, text, multiple colors, cut and paste from
other images, and flood fills, and to write out the result as a PNG or
JPEG file. This is particularly useful in Web applications, where PNG
and JPEG are two of the formats accepted for inline images by most
browsers. Note that gd is not a paint program.
```

- No added dependencies
- No removed dependencies

gdb-6.5-25.el5 - gdb-6.8-27.el5

- Group: **Development/Debuggers**
- Summary: **A GNU source-level debugger for C, C++, Java and other languages**
- Description:

```
GDB, the GNU debugger, allows you to debug programs written in C, C++,
Java, and other languages, by executing them in a controlled fashion
and printing their data.
```

- Added Dependencies:
  - expat-devel
  - readline-devel
- Removed Dependencies:
  - /lib/libc.so.6

- /lib64/libc.so.6
- /usr/lib/libc.so
- /usr/lib64/libc.so

gdm-2.16.0-31.0.1.el5 - gdm-2.16.0-46.el5

- Group: **User Interface/X**
- Summary: **The GNOME Display Manager.**
- Description:

```
Gdm (the GNOME Display Manager) is a highly configurable
reimplementation of xdm, the X Display Manager. Gdm allows you to log
into your system with the X Window System running and supports running
several different X sessions on your local machine at the same time.
```

- No added dependencies
- No removed dependencies

gedit-2.16.0-5.el5 - gedit-2.16.0-9.el5

- Group: **Applications/Editors**
- Summary: **gEdit is a small but powerful text editor for GNOME**
- Description:

```
gEdit is a small but powerful text editor designed specifically for
the GNOME GUI desktop. gEdit includes a plug-in API (which supports
extensibility while keeping the core binary small), support for
editing multiple documents using notebook tabs, and standard text
editor functions.

You'll need to have GNOME and GTK+ installed to use gEdit.
```

- No added dependencies
- No removed dependencies

gfs-kmod-0.1.19-7.el5 - gfs-kmod-0.1.31-3.el5

- Group: **System Environment/Kernel**
- Summary: **gfs kernel modules**
- Description:

```
gfs - The Global File System is a symmetric, shared-disk, cluster file
system.
```

- Added Dependencies:
  - kernel-devel-ia64 = 2.6.18-128.el5
  - kernel-xen-devel-ia64 = 2.6.18-128.el5
- Removed Dependencies:
  - kernel-devel-ia64 = 2.6.18-53.el5
  - kernel-xen-devel-ia64 = 2.6.18-53.el5

gfs-utils-0.1.12-1.el5 - gfs-utils-0.1.18-1.el5

- Group: **System Environment/Kernel**
- Summary: **Utilities for managing the global filesystem (GFS)**
- Description:

```
The gfs-utils package contains a number of utilities for creating,
checking, modifying, and correcting any inconsistencies in GFS
filesystems.
```

- No added dependencies
- No removed dependencies

gfs2-utils-0.1.38-1.el5 - gfs2-utils-0.1.53-1.el5

- Group: **System Environment/Kernel**
- Summary: **Utilities for managing the global filesystem (GFS)**
- Description:

```
The gfs2-utils package contains a number of utilities for creating,
checking, modifying, and correcting any inconsistencies in GFS
filesystems.
```

- No added dependencies
- No removed dependencies

ghostscript-8.15.2-9.1.el5 - ghostscript-8.15.2-9.4.el5

- Group: **Applications/Publishing**
- Summary: **A PostScript(TM) interpreter and renderer.**
- Description:

```
Ghostscript is a set of software that provides a PostScript(TM)
interpreter, a set of C procedures (the Ghostscript library, which
implements the graphics capabilities in the PostScript language) and
an interpreter for Portable Document Format (PDF) files. Ghostscript
translates PostScript code into many common, bitmapped formats, like
those understood by your printer or screen. Ghostscript is normally
used to display PostScript files and to print PostScript files to
non-PostScript printers.

If you need to display PostScript files or print them to
non-PostScript printers, you should install ghostscript. If you
install ghostscript, you also need to install the ghostscript-fonts
package.
```

- No added dependencies
- No removed dependencies

gimp-print-4.2.7-22 - gimp-print-4.2.7-22.2.el5

- Group: **System Environment/Libraries**
- Summary: **A collection of high-quality printer drivers.**
- Description:

```
These drivers provide printing quality for UNIX/Linux in many cases
equal
to or better than proprietary vendor-supplied drivers, and can be used
for
many of the most demanding printing tasks.
```

- No added dependencies
- No removed dependencies

glibc-2.5-18 - glibc-2.5-34

- Group: **System Environment/Libraries**
- Summary: **The GNU libc libraries.**
- Description:

```
The glibc package contains standard libraries which are used by
multiple programs on the system. In order to save disk space and
memory, as well as to make upgrading easier, common system code is
kept in one place and shared between programs. This particular package
contains the most important sets of shared libraries: the standard C
library and the standard math library. Without these two libraries, a
Linux system will not function.
```

- No added dependencies
- No removed dependencies

gnbd-1.1.5-1.el5 - gnbd-1.1.7-1.el5

- Group: **System Environment/Kernel**
- Summary: **GFS's Network Block Device**
- Description:

```
gnbd - GFS's Network Block Device
```

- No added dependencies
- No removed dependencies

gnbd-kmod-0.1.4-12.el5 - gnbd-kmod-0.1.5-2.el5

- Group: **System Environment/Kernel**
- Summary: **gnbd kernel modules**
- Description:

```
gnbd - The Global Network Block Device
```

- Added Dependencies:

- kernel-devel-ia64 = 2.6.18-98.el5
- kernel-xen-devel-ia64 = 2.6.18-98.el5

- Removed Dependencies:
  - kernel-devel-ia64 = 2.6.18-53.el5
  - kernel-xen-devel-ia64 = 2.6.18-53.el5

gnome-panel-2.16.1-6.el5 - gnome-panel-2.16.1-7.el5

- Group: **User Interface/Desktops**
- Summary: **GNOME panel**
- Description:

```
The GNOME panel provides the window list, workspace switcher, menus, and
other
features for the GNOME desktop.
```

- No added dependencies
- No removed dependencies

gnome-power-manager-2.16.0-8.el5 - gnome-power-manager-2.16.0-10.el5

- Group: **Applications/System**
- Summary: **GNOME Power Manager**
- Description:

```
GNOME Power Manager uses the information and facilities provided by HAL
displaying icons and handling user callbacks in an interactive GNOME
session.
GNOME Power Preferences allows authorised users to set policy and
change preferences.
```

- No added dependencies
- No removed dependencies

gnome-python2-desktop-2.16.0-1.fc6 - gnome-python2-desktop-2.16.0-2.el5

- Group: **Development/Languages**
- Summary: **The sources for additional PyGNOME Python extension modules for the GNOME desktop**
- Description:

```
The gnome-python-desktop package contains the source packages for
additional
Python bindings for GNOME. It should be used together with gnome-python.
```

- No added dependencies
- No removed dependencies

gnome-python2-extras-2.14.2-4.fc6 - gnome-python2-extras-2.14.2-6.el5

- Group: **Development/Languages**
- Summary: **The sources for additional. PyGNOME Python extension modules.**
- Description:

```
The gnome-python-extra package contains the source packages for
additional
Python bindings for GNOME. It should be used together with gnome-python.
```

- Added Dependencies:
  - gecko-devel-unstable >= 1.9
- Removed Dependencies:
  - firefox-devel >= 1.5.0.5

gnome-screensaver-2.16.1-5.el5 - gnome-screensaver-2.16.1-8.el5

- Group: **Amusements/Graphics**
- Summary: **GNOME Screensaver**
- Description:

```
gnome-screensaver is a screen saver and locker that aims to have
simple, sane, secure defaults and be well integrated with the desktop.
```

- Added Dependencies:
  - libXxf86misc-devel
  - libXxf86vm-devel
- No removed dependencies

gnome-terminal-2.16.0-3.el5 - gnome-terminal-2.16.0-5.3.el5

- Group: **User Interface/Desktops**
- Summary: **GNOME Terminal**
- Description:

```

GNOME terminal emulator application.
```

- No added dependencies
- No removed dependencies

gnome-utils-2.16.0-3.el5 - gnome-utils-2.16.0-5.el5

- Group: **Applications/System**
- Summary: **GNOME utility programs**
- Description:

```
GNOME (GNU Network Object Model Environment) is a user-friendly set of
GUI applications and desktop tools to be used in conjunction with a
window manager for the X Window System. The gnome-utils package
includes a set of small "desk accessory" utility applications for GNOME.
```

- No added dependencies
- No removed dependencies

gnome-volume-manager-2.15.0-4.el5 - gnome-volume-manager-2.15.0-5.el5

- Group: **Applications/System**
- Summary: **The GNOME Volume Manager**
- Description:

```
The GNOME Volume Manager monitors volume-related events and responds
with
user-specified policy. The GNOME Volume Manager can automount hot-
plugged
drives, automount inserted removable media, autorun programs,
automatically
play audio CDs and video DVDs, and automatically import photos from a
digital
camera. The GNOME Volume Manager does this entirely in user-space and
without
polling.

The GNOME Voume Manager sits at the top end of a larger picture that
aims to
integrate the Linux system from the kernel on up through the desktop and
its
applications.
```

- No added dependencies
- No removed dependencies

gnupg-1.4.5-13 - gnupg-1.4.5-14

- Group: **Applications/System**
- Summary: **A GNU utility for secure communication and data storage.**
- Description:

```
GnuPG (GNU Privacy Guard) is a GNU utility for encrypting data and
creating digital signatures. GnuPG has advanced key management
capabilities and is compliant with the proposed OpenPGP Internet
standard described in RFC2440. Since GnuPG doesn't use any patented
algorithm, it is not compatible with any version of PGP2 (PGP2.x uses
only IDEA for symmetric-key encryption, which is patented worldwide).
```

- No added dependencies
- No removed dependencies

gnuplot-4.0.0-12 - gnuplot-4.0.0-14.el5

- Group: **Applications/Engineering**
- Summary: **A program for plotting mathematical expressions and data.**
- Description:

```
Gnuplot is a command-line driven, interactive function plotting
program especially suited for scientific data representation. Gnuplot
can be used to plot functions and data points in both two and three
dimensions and in many different formats.

Install gnuplot if you need a graphics package for scientific data
representation.
```

- Added Dependencies:
  - gd-devel
- No removed dependencies

gnutls-1.4.1-2 - gnutls-1.4.1-3.el5_2.1

- Group: **System Environment/Libraries**
- Summary: **A TLS protocol implementation.**
- Description:

```
GnuTLS is a project that aims to develop a library which provides a
secure
layer, over a reliable transport layer. Currently the GnuTLS library
implements
the proposed standards by the IETF's TLS working group.
```

- No added dependencies
- No removed dependencies

grub-0.97-13 - grub-0.97-13.2

- Group: **System Environment/Base**
- Summary: **GRUB - the Grand Unified Boot Loader.**
- Description:

```
GRUB (Grand Unified Boot Loader) is an experimental boot loader
capable of booting into most free operating systems - Linux, FreeBSD,
NetBSD, GNU Mach, and others as well as most commercial operating
systems.
```

- No added dependencies
- No removed dependencies

gstreamer-0.10.9-3.el5 - gstreamer-0.10.20-3.el5

- Group: **Applications/Multimedia**
- Summary: **GStreamer streaming media framework runtime**
- Description:

```
GStreamer is a streaming media framework, based on graphs of filters
which
operate on media data. Applications using this library can do anything
from real-time sound processing to playing videos, and just about
anything
else media-related. Its plugin-based architecture means that new data
types or processing capabilities can be added simply by installing new
plugins.
```

- Added Dependencies:
  - PyXML
  - autoconf
  - automake
  - docbook-style-dsssl
  - docbook-style-xsl
  - docbook-utils
  - gettext-devel
  - ghostscript
  - jadetex
  - libtool
  - libxslt
  - netpbm-progs
  - openjade
  - python2
  - tetex-dvips
  - transfig
  - xfig
- No removed dependencies

gstreamer-plugins-base-0.10.9-6.el5 - gstreamer-plugins-base-0.10.20-3.el5

- Group: **Applications/Multimedia**
- Summary: **GStreamer streaming media framework base plug-ins**
- Description:

```
GStreamer is a streaming media framework, based on graphs of filters
which
operate on media data. Applications using this library can do anything
from real-time sound processing to playing videos, and just about
anything
else media-related. Its plugin-based architecture means that new data
types or processing capabilities can be added simply by installing new
plug-ins.

This package contains a set of well-maintained base plug-ins.
```

- Added Dependencies:
  - autoconf
  - automake

- gnome-vfs2-devel
- gstreamer-devel >= 0.10.20

- Removed Dependencies:
  - gnome-vfs2-devel > 1.9.4.00
  - gstreamer-devel >= 0.10.6
  - liboil-devel >= 0.3.2

gstreamer-plugins-good-0.10.4-4.el5 - gstreamer-plugins-good-0.10.9-1.el5

- Group: **Applications/Multimedia**
- Summary: **GStreamer plug-ins with good code and licensing**
- Description:

```
GStreamer is a streaming media framework, based on graphs of filters
which
operate on media data. Applications using this library can do anything
from real-time sound processing to playing videos, and just about
anything
else media-related. Its plugin-based architecture means that new data
types or processing capabilities can be added simply by installing new
plug-ins.

GStreamer Good Plug-ins is a collection of well-supported plug-ins of
good quality and under the LGPL license.
```

- No added dependencies
- No removed dependencies

gthumb-2.7.8-5.el5 - gthumb-2.7.8-8.el5

- Group: **User Interface/X**
- Summary: **Image viewer, editor, organizer**
- Description:

```
gthumb is an application for viewing, editing, and organizing
collections of images.
```

- No added dependencies
- No removed dependencies

gtk2-2.10.4-19.el5 - gtk2-2.10.4-20.el5

- Group: **System Environment/Libraries**
- Summary: **The GIMP ToolKit (GTK+), a library for creating GUIs for X**
- Description:

```
GTK+ is a multi-platform toolkit for creating graphical user
interfaces. Offering a complete set of widgets, GTK+ is suitable for
projects ranging from small one-off tools to complete application
suites.
```

- No added dependencies
- No removed dependencies

gtkhtml3-3.12.0-1.fc6 - gtkhtml3-3.16.3-1.el5

- Group: **System Environment/Libraries**
- Summary: **gtkhtml library**
- Description:

```
GtkHTML is a lightweight HTML rendering/printing/editing engine. It
was originally based on KHTMLW, but is now being developed
independently of it.
```

- Added Dependencies:
  - intltool >= 0.35.0
- Removed Dependencies:
  - intltool
  - libgnomeprint22-devel >= 2.7.1
  - libgnomeprintui22-devel >= 2.7.1

gzip-1.3.5-9.el5 - gzip-1.3.5-10.el5

- Group: **Applications/File**
- Summary: **The GNU data compression program.**
- Description:

```
The gzip package contains the popular GNU gzip data compression
program. Gzipped files have a .gz extension.

Gzip should be installed on your Red Hat Linux system, because it is a
very commonly used data compression program.
```

- No added dependencies
- No removed dependencies

hal-0.5.8.1-25.el5 - hal-0.5.8.1-38.el5

- Group: **System Environment/Libraries**
- Summary: **Hardware Abstraction Layer**
- Description:

```

HAL is daemon for collection and maintaining information from several
sources about the hardware on the system. It provides a live device
list through D-BUS.
```

- Added Dependencies:
  - gperf >= 3.0.1
- No removed dependencies

hal-cups-utils-0.6.2-5 - hal-cups-utils-0.6.2-5.2.el5

- Group: **Applications/System**
- Summary: **Halified CUPS utilities**
- Description:

```
Halified utilities for CUPS:
- hal_lpadmin
- hal CUPS backend
```

- No added dependencies
- No removed dependencies

hplip-1.6.7-4.1.el5 - hplip-1.6.7-4.1.el5_2.4

- Group: **System Environment/Daemons**
- Summary: **HP Linux Imaging and Printing Project**
- Description:

```
The Hewlett-Packard Linux Imaging and Printing Project provides
drivers for HP printers and multi-function peripherals.
```

- Added Dependencies:
  - openssl-devel
- No removed dependencies

htdig-3.2.0b6-9.el5 - htdig-3.2.0b6-9.0.1.el5_1

- Group: **Applications/Internet**
- Summary: **ht://Dig - Web search engine**
- Description:

```
The ht://Dig system is a complete world wide web indexing and searching
system for a small domain or intranet. This system is not meant to
replace
the need for powerful internet-wide search systems like Lycos, Infoseek,
Webcrawler and AltaVista. Instead it is meant to cover the search needs
for
a single company, campus, or even a particular sub section of a web
site. As
opposed to some WAIS-based or web-server based search engines, ht://Dig
can
span several web servers at a site. The type of these different web
servers
doesn't matter as long as they understand the HTTP 1.0 protocol.
ht://Dig is also used by KDE to search KDE's HTML documentation.

ht://Dig was developed at San Diego State University as a way to search
the
various web servers on the campus network.
```

- No added dependencies

- No removed dependencies

htmlview-4.0.0-1.el5 - htmlview-4.0.0-2.el5

- Group: **Applications/Internet**
- Summary: **Launcher of Preferred Web Browser**
- Description:

```
htmlview and launchmail are tools for launching Preferred Applications.
This package exists for compatibility reasons and is likely to be
removed
later when equivalent functionality is implemented elsewhere.
```

- No added dependencies
- No removed dependencies

httpd-2.2.3-11.el5 - httpd-2.2.3-22.el5

- Group: **System Environment/Daemons**
- Summary: **Apache HTTP Server**
- Description:

```
The Apache HTTP Server is a powerful, efficient, and extensible
web server.
```

- No added dependencies
- No removed dependencies

hwbrowser-0.30-1.el5 - hwbrowser-0.30-2.el5

- Group: **Applications/System**
- Summary: **A hardware browser.**
- Description:

```
A browser for your current hardware configuration.
```

- No added dependencies
- No removed dependencies

hwdata-0.211-1 - hwdata-0.213.11-1.el5

- Group: **System Environment/Base**
- Summary: **Hardware identification and configuration data**
- Description:

```
hwdata contains various hardware identification and configuration data,
such as the pci.ids database and MonitorsDb databases.
```

- No added dependencies
- No removed dependencies

ibutils-1.2-2.el5 - ibutils-1.2-9.el5

- Group: **System Environment/Libraries**
- Summary: **OpenIB Mellanox InfiniBand Diagnostic Tools**
- Description:

```
ibutils provides IB network and path diagnostics.
```

- Added Dependencies:
  - autoconf
  - libibumad-devel
  - libtool
  - opensm-devel >= 3.2.0
- Removed Dependencies:
  - opensm-devel >= 3.0.3

icu-3.6-5.11 - icu-3.6-5.11.1

- Group: **System Environment/Libraries**
- Summary: **International Components for Unicode**
- Description:

```
The International Components for Unicode (ICU) libraries provide
robust and full-featured Unicode services on a wide variety of
platforms. ICU supports the most current version of the Unicode
standard, and they provide support for supplementary Unicode
characters (needed for GB 18030 repertoire support).
As computing environments become more heterogeneous, software
portability becomes more important. ICU lets you produce the same
results across all the various platforms you support, without
sacrificing performance. It offers great flexibility to extend and
customize the supplied services.
```

- No added dependencies
- No removed dependencies

initscripts-8.45.17.EL-1 - initscripts-8.45.25-1.el5

- Group: **System Environment/Base**
- Summary: **The inittab file and the /etc/init.d scripts.**
- Description:

```
The initscripts package contains the basic system scripts used to boot
your Red Hat system, change runlevels, and shut the system down
cleanly. Initscripts also contains the scripts that activate and
deactivate most network interfaces.
```

- No added dependencies
- No removed dependencies

inn-2.4.3-6.fc6 - inn-2.4.3-8.el5

- Group: **System Environment/Daemons**
- Summary: **The InterNetNews (INN) system, an Usenet news server.**
- Description:

```
INN (InterNetNews) is a complete system for serving Usenet news and/or
private newsfeeds. INN includes innd, an NNTP (NetNews Transport
Protocol) server, and nnrpd, a newsreader that is spawned for each
client. Both innd and nnrpd vary slightly from the NNTP protocol, but
not in ways that are easily noticed.

Install the inn package if you need a complete system for serving and
reading Usenet news. You may also need to install inn-devel, if you
are going to use a separate program which interfaces to INN, like
newsgate or tin.
```

- No added dependencies
- No removed dependencies

iproute-2.6.18-4.el5 - iproute-2.6.18-9.el5

- Group: **Applications/System**
- Summary: **Advanced IP routing and network device configuration tools.**
- Description:

```
The iproute package contains networking utilities (ip and rtmon, for
example) which are designed to use the advanced networking
capabilities of the Linux 2.4.x and 2.6.x kernel.
```

- No added dependencies
- No removed dependencies

iprutils-2.2.6-1.el5 - iprutils-2.2.8-2.el5

- Group: **System Environment/Base**
- Summary: **Utilities for the IBM Power Linux RAID adapters**
- Description:

```
Provides a suite of utilities to manage and configure SCSI devices
supported by the ipr SCSI storage device driver.
```

- No added dependencies
- No removed dependencies

ipsec-tools-0.6.5-8.el5 - ipsec-tools-0.6.5-13.el5

- Group: **System Environment/Base**
- Summary: **Tools for configuring and using IPSEC**
- Description:

```
This is the IPsec-Tools package. You need this package in order to
really use the IPsec functionality in the linux-2.5+ kernels. This
package builds:

- setkey, a program to directly manipulate policies and SAs
- racoon, an IKEv1 keying daemon
```

- Added Dependencies:
  - kernel-headers >= 2.6.18-92
- No removed dependencies

iptables-1.3.5-1.2.1 - iptables-1.3.5-4.el5

- Group: **System Environment/Base**
- Summary: **Tools for managing Linux kernel packet filtering capabilities.**
- Description:

```
The iptables utility controls the network packet filtering code in the
Linux kernel. If you need to set up firewalls and/or IP masquerading,
you should install this package.
```

- No added dependencies
- No removed dependencies

iputils-20020927-43.el5 - iputils-20020927-45.el5

- Group: **System Environment/Daemons**
- Summary: **Network monitoring tools including ping.**
- Description:

```
The iputils package contains basic utilities for monitoring a network,
including ping. The ping command sends a series of ICMP protocol
ECHO_REQUEST packets to a specified network host to discover whether
the target machine is alive and receiving network traffic.
```

- No added dependencies
- No removed dependencies

irqbalance-0.55-6.el5 - irqbalance-0.55-10.el5

- Group: **System Environment/Base**
- Summary: **IRQ balancing daemon.**
- Description:

```
irqbalance is a daemon that evenly distributes IRQ load across
multiple CPUs for enhanced performance.
```

- No added dependencies
- No removed dependencies

iscsi-initiator-utils-6.2.0.865-0.8.el5 - iscsi-initiator-utils-6.2.0.868-0.18.el5

- Group: **System Environment/Daemons**
- Summary: **iSCSI daemon and utility programs**
- Description:

```
The iscsi package provides the server daemon for the iSCSI protocol,
as well as the utility programs used to manage it. iSCSI is a protocol
for distributed disk access using SCSI commands sent over Internet
Protocol networks.
```

- Added Dependencies:
  - bison
  - flex
- No removed dependencies

isdn4k-utils-3.2-50.1 - isdn4k-utils-3.2-51.el5

- Group: **Applications/System**
- Summary: **Utilities for configuring an ISDN subsystem.**
- Description:

```
The isdn4k-utils package contains a collection of utilities needed for
configuring an ISDN subsystem.
```

- No added dependencies
- No removed dependencies

jakarta-commons-collections-3.1-6jpp.1 - jakarta-commons-collections-3.2-2jpp.3

- Group: **Development/Libraries/Java**
- Summary: **Jakarta Commons Collections Package**
- Description:

```
The introduction of the Collections API by Sun in JDK 1.2 has been a
boon to quick and effective Java programming. Ready access to powerful
data structures has accelerated development by reducing the need for
custom container classes around each core object. Most Java2 APIs are
significantly easier to use because of the Collections API.
However, there are certain holes left unfilled by Sun's
implementations, and the Jakarta-Commons Collections Component strives
to fulfill them. Among the features of this package are:
- special-purpose implementations of Lists and Maps for fast access
- adapter classes from Java1-style containers (arrays, enumerations) to
Java2-style collections.
- methods to test or create typical set-theory properties of collections
such as union, intersection, and closure.
```

- Added Dependencies:
  - xml-commons-apis >= 1.3
- No removed dependencies

java-1.4.2-gcj-compat-1.4.2.0-40jpp.112 - java-1.4.2-gcj-compat-1.4.2.0-40jpp.115

- Group: **Development/Languages**
- Summary: **JPackage runtime scripts for GCJ**
- Description:

```
This package installs directory structures, shell scripts and symbolic
links to simulate a JPackage-compatible runtime environment with GCJ.
```

- No added dependencies
- No removed dependencies

kbd-1.12-19.el5 - kbd-1.12-21.el5

- Group: **System Environment/Base**
- Summary: **Tools for configuring the console (keyboard, virtual terminals, etc.)**
- Description:

```
The kbd package contains tools for managing a Linux
system's console's behavior, including the keyboard, the screen
fonts, the virtual terminals and font files.
```

- No added dependencies
- No removed dependencies

kdeadmin-3.5.4-2.fc6 - kdeadmin-3.5.4-3.el5

- Group: **User Interface/Desktops**
- Summary: **Administrative tools for KDE.**
- Description:

```
The kdeadmin package includes administrative tools for the K Desktop
Environment (KDE) including:

kcron - Crontab editor
kdat - Tape backup tool
kuser - Frontend for configuring users and user groups
```

- No added dependencies
- No removed dependencies

kdebase-3.5.4-13.6.el5 - kdebase-3.5.4-19.el5

- Group: **User Interface/Desktops**
- Summary: **K Desktop Environment - core files**
- Description:

```
Core applications for the K Desktop Environment. Included are: kdm
(replacement for xdm), kwin (window manager), konqueror (filemanager,
web browser, ftp client, ...), konsole (xterm replacement), kpanel
(application starter and desktop pager), kaudio (audio server),
kdehelp (viewer for kde help files, info and man pages), kthememgr
(system for managing alternate theme packages) plus other KDE
components (kcheckpass, kikbd, kscreensaver, kcontrol, kfind,
kfontmanager, kmenuedit).
```

- Added Dependencies:
  - libutempter-devel
- No removed dependencies

kdebindings-3.5.4-1.fc6 - kdebindings-3.5.4-6.el5

- Group: **User Interface/Desktops**
- Summary: **KDE bindings to non-C++ languages**
- Description:

```
KDE/DCOP bindings to non-C++ languages
```

- Added Dependencies:
  - libutempter-devel
  - perl >= 5.8.8
- Removed Dependencies:
  - perl >= 5.8

kdelibs-3.5.4-13.el5 - kdelibs-3.5.4-18.el5

- Group: **System Environment/Libraries**
- Summary: **K Desktop Environment - Libraries**
- Description:

```
Libraries for the K Desktop Environment:
KDE Libraries included: kdecore (KDE core library), kdeui (user
interface),
kfm (file manager), khtmlw (HTML widget), kio (Input/Output, networking),
kspell (spelling checker), jscript (javascript), kab (addressbook),
kimgio (image manipulation).
```

- No added dependencies
- No removed dependencies

kdenetwork-3.5.4-4.fc6 - kdenetwork-3.5.4-8.el5

- Group: **Applications/Internet**
- Summary: **K Desktop Environment - Network Applications**
- Description:

```
Networking applications for the K Desktop Environment.
```

- Added Dependencies:
  - libutempter-devel
- No removed dependencies

kernel-2.6.18-53.el5 - kernel-2.6.18-128.el5

- Group: **System Environment/Kernel**
- Summary: **The Linux kernel (the core of the Linux operating system)**
- Description:

```
The kernel package contains the Linux kernel (vmlinuz), the core of any
Linux operating system. The kernel handles the basic functions
of the operating system: memory allocation, process allocation, device
input and output, etc.
```

- No added dependencies
- No removed dependencies

kexec-tools-1.101-194.4.el5 - kexec-tools-1.102pre-56.el5

- Group: **Applications/System**
- Summary: **The kexec/kdump userspace component.**
- Description:

```
kexec-tools provides /sbin/kexec binary that facilitates a new
kernel to boot using the kernel's kexec feature either on a
normal or a panic reboot. This package contains the /sbin/kexec
binary and ancillary utilities that together form the userspace
component of the kernel's kexec feature.
```

- No added dependencies
- No removed dependencies

krb5-1.6.1-17.el5 - krb5-1.6.1-31.el5

- Group: **System Environment/Libraries**
- Summary: **The Kerberos network authentication system.**
- Description:

```
Kerberos V5 is a trusted-third-party network authentication system,
which can improve your network's security by eliminating the insecure
practice of cleartext passwords.
```

- No added dependencies
- No removed dependencies

ksh-20060214-1.4 - ksh-20080202-2.el5

- Group: **Applications/Shells**

- Summary: **The Original ATT Korn Shell**
- Description:

```
KSH-93 is the most recent version of the KornShell by David Korn of
AT&T Bell Laboratories.
KornShell is a shell programming language, which is upward compatible
with "sh" (the Bourne Shell).
```

- No added dependencies
- No removed dependencies

kudzu-1.2.57.1.15-1 - kudzu-1.2.57.1.21-1

- Group: **Applications/System**
- Summary: **The Red Hat Linux hardware probing tool.**
- Description:

```
Kudzu is a hardware probing tool run at system boot time to determine
what hardware has been added or removed from the system.
```

- No added dependencies
- No removed dependencies

lam-7.1.2-8.fc6 - lam-7.1.2-14.el5

- Group: **Development/Libraries**
- Summary: **The LAM (Local Area Multicomputer) programming environment.**
- Description:

```
LAM (Local Area Multicomputer) is an Message-Passing Interface (MPI)
programming environment and development system for heterogeneous
computers on a network. With LAM/MPI, a dedicated cluster or an
existing network computing infrastructure can act as one parallel
computer to solve one problem. LAM/MPI is considered to be "cluster
friendly" because it offers daemon-based process startup/control as
well as fast client-to-client message passing protocols. LAM/MPI can
use TCP/IP and/or shared memory for message passing (different RPMs
are supplied for this -- see the main LAM website at
http://www.mpi.nd.edu/lam/ for details).<

LAM features a full implementation of MPI version 1 (with the
exception that LAM does not support cancelling of sends), and much of
version 2. Compliant applications are source code portable between LAM
and any other implementation of MPI. In addition to meeting the
standard, LAM/MPI offers extensive monitoring capabilities to support
debugging. Monitoring happens on two levels: On one level, LAM/MPI has
the hooks to allow a snapshot of a process and message status to be
taken at any time during an application run. The status includes all
aspects of synchronization plus datatype map/signature, communicator
group membership and message contents (see the XMPI application on the
main LAM website). On the second level, the MPI library can produce a
cumulative record of communication, which can be visualized either at
runtime or post-mortem.
```

- No added dependencies
- No removed dependencies

libX11-1.0.3-8.0.1.el5 - libX11-1.0.3-9.el5

- Group: **System Environment/Libraries**
- Summary: **X.Org X11 libX11 runtime library**
- Description:

```
X.Org X11 libX11 runtime library
```

- No added dependencies
- No removed dependencies

libXfont-1.2.2-1.0.2.el5 - libXfont-1.2.2-1.0.3.el5_1

- Group: **System Environment/Libraries**
- Summary: **X.Org X11 libXfont runtime library**
- Description:

```
X.Org X11 libXfont runtime library
```

- No added dependencies
- No removed dependencies

libao-0.8.6-5 - libao-0.8.6-7

- Group: **System Environment/Libraries**

- Summary: **Cross Platform Audio Output Library.**
- Description:

```
Libao is a cross platform audio output library. It currently supports
ESD, OSS, Solaris, and IRIX.
```

- No added dependencies
- No removed dependencies

libchewing-0.3.0-7.el5 - libchewing-0.3.0-8.el5

- Group: **System Environment/Libraries**
- Summary: **Intelligent phonetic input method library for Traditional Chinese**
- Description:

```
libchewing is an intelligent phonetic input method library for Chinese.

It provides the core algorithm and logic that can be used by various
input methods. The Chewing input method is a smart bopomofo phonetics
input method that is useful for inputting Mandarin Chinese.
```

- No added dependencies
- No removed dependencies

libdhcp-1.20-2.el5 - libdhcp-1.20-6.el5

- Group: **Development/Libraries**
- Summary: **A library for network interface configuration with DHCP**
- Description:

```
libdhcp enables programs to invoke and control the Dynamic Host
Configuration
Protocol (DHCP) clients: the Internet Software Consortium (ISC) IPv4
DHCP
client library, libdhcp4client, and the IPv6 DHCPv6 client library,
libdhcp6client, and provides Network Interface Configuration (NIC)
services
for network parameter autoconfiguration with DHCP.
```

- Added Dependencies:
  - dhcp-devel >= 12:3.0.5-13
  - libdhcp4client-devel >= 12:3.0.5-13
  - libdhcp6client-devel >= 1.0.9-1
- Removed Dependencies:
  - dhcp-devel
  - libdhcp4client-devel >= 12:3.0.4-17
  - libdhcp6client-devel

liberation-fonts-0.2-2.el5 - liberation-fonts-1.0-1.el5

- Group: **User Interface/X**
- Summary: **Fonts to replace commonly used Microsoft Windows Fonts**
- Description:

```
The Liberation Fonts are intended to be replacements for the three
most commonly used fonts on Microsoft systems: Times New Roman,
Arial, and Courier New.
```

- No added dependencies
- No removed dependencies

libexif-0.6.13-4.0.2.el5 - libexif-0.6.13-4.0.2.el5_1.1

- Group: **System Environment/Libraries**
- Summary: **Library for extracting extra information from image files**
- Description:

```
Most digital cameras produce EXIF files, which are JPEG files with
extra tags that contain information about the image. The EXIF library
allows you to parse an EXIF file and read the data from those tags.
```

- No added dependencies
- No removed dependencies

libgcrypt-1.2.3-1 - libgcrypt-1.2.4-1.el5

- Group: **System Environment/Libraries**
- Summary: **A general-purpose cryptography library.**
- Description:

```
Libgcrypt is a general purpose crypto library based on the code used
in GNU Privacy Guard. This is a development version.
```

- No added dependencies
- No removed dependencies

libgnomeprint22-2.12.1-9.el5 - libgnomeprint22-2.12.1-10.el5

- Group: **System Environment/Base**
- Summary: **Printing library for GNOME.**
- Description:

```
GNOME (GNU Network Object Model Environment) is a user-friendly set of
applications and desktop tools to be used in conjunction with a window
manager for the X Window System. The gnome-print package contains
libraries and fonts needed by GNOME applications for printing.

You should install the gnome-print package if you intend to use any of
the GNOME applications that can print. If you would like to develop
GNOME applications that can print you will also need to install the
gnome-print devel package.
```

- No added dependencies
- No removed dependencies

libhugetlbfs-1.0.1-1.el5 - libhugetlbfs-1.3-3.el5

- Group: **System Environment/Libraries**
- Summary: **Library to access the Huge TLB Filesystem**
- Description:

```
The libhugetlbfs library interacts with the Linux hugetlbfs to make large
pages
available to applications in a transparent manner.
```

- No added dependencies
- No removed dependencies

libica-1.3.7-5.el5 - libica-1.3.7-8.el5

- Group: **System Environment/Libraries**
- Summary: **A library of functions for accessing ICA hardware crypto on IBM zSeries**
- Description:

```
A library of functions for accessing ICA hardware crypto on IBM zSeries
```

- Added Dependencies:
  - autoconf
  - automake
  - libtool
- No removed dependencies

libnl-1.0-0.10.pre5.4 - libnl-1.0-0.10.pre5.5

- Group: **Development/Libraries**
- Summary: **Convenience library for kernel netlink sockets**
- Description:

```
This package contains a convenience library to simplify
using the Linux kernel's netlink sockets interface for
network manipulation
```

- No added dependencies
- No removed dependencies

libpng-1.2.10-7.0.2 - libpng-1.2.10-7.1.el5_0.1

- Group: **System Environment/Libraries**
- Summary: **A library of functions for manipulating PNG image format files**
- Description:

```
The libpng package contains a library of functions for creating and
manipulating PNG (Portable Network Graphics) image format files. PNG
is a bit-mapped graphics format similar to the GIF format. PNG was
created to replace the GIF format, since GIF uses a patented data
compression algorithm.

Libpng should be installed if you need to manipulate PNG format image
files.
```

- No added dependencies
- No removed dependencies

libraw1394-1.2.1-1.fc6 - libraw1394-1.3.0-1.el5

- Group: **System Environment/Libraries**
- Summary: **Library providing low-level IEEE-1394 access**
- Description:

```
The libraw1394 library provides direct access to the IEEE-1394 bus
through
the Linux 1394 subsystem's raw1394 user space interface.
```

- Added Dependencies:
  - autoconf
  - automake
  - libtool
- No removed dependencies

librtas-1.2.4-3.el5 - librtas-1.3.3-1.el5

- Group: **System Environment/Libraries**
- Summary: **Libraries to provide access to RTAS calls and RTAS events**
- Description:

```
The librtas shared library provides userspace with an interface
through which certain RTAS calls can be made. The library uses
either of the RTAS User Module or the RTAS system call to direct
the kernel in making these calls.

The librtasevent shared library provides users with a set of
definitions and common routines useful in parsing and dumping
the contents of RTAS events.
```

- No added dependencies
- No removed dependencies

libselinux-1.33.4-4.el5 - libselinux-1.33.4-5.1.el5

- Group: **System Environment/Libraries**
- Summary: **SELinux library and simple utilities**
- Description:

```
Security-enhanced Linux is a feature of the Linux® kernel and a number
of utilities with enhanced security functionality designed to add
mandatory access controls to Linux. The Security-enhanced Linux
kernel contains new architectural components originally developed to
improve the security of the Flask operating system. These
architectural components provide general support for the enforcement
of many kinds of mandatory access control policies, including those
based on the concepts of Type Enforcement®, Role-based Access
Control, and Multi-level Security.

libselinux provides an API for SELinux applications to get and set
process and file security contexts and to obtain security policy
decisions. Required for any applications that use the SELinux API.
```

- No added dependencies
- No removed dependencies

libtiff-3.8.2-7.el5 - libtiff-3.8.2-7.el5_2.2

- Group: **System Environment/Libraries**
- Summary: **Library of functions for manipulating TIFF format image files**
- Description:

```
The libtiff package contains a library of functions for manipulating
TIFF (Tagged Image File Format) image format files. TIFF is a widely
used file format for bitmapped images. TIFF files usually end in the
.tif extension and they are often quite large.

The libtiff package should be installed if you need to manipulate TIFF
format image files.
```

- No added dependencies
- No removed dependencies

libuser-0.54.7-2.el5.2 - libuser-0.54.7-2.el5.5

- Group: **System Environment/Base**
- Summary: **A user and group account administration library.**
- Description:

```
The libuser library implements a standardized interface for manipulating
and administering user and group accounts. The library uses pluggable
back-ends to interface to its data sources.

Sample applications modeled after those included with the shadow
password
suite are included.
```

- No added dependencies
- No removed dependencies

libutempter-1.1.4-3.fc6 - libutempter-1.1.4-4.el5

- Group: **System Environment/Libraries**
- Summary: **A privileged helper for utmp/wtmp updates**
- Description:

```
This library provides interface for terminal emulators such as
screen and xterm to record user sessions to utmp and wtmp files.
```

- No added dependencies
- No removed dependencies

libvirt-0.2.3-9.el5 - libvirt-0.3.3-14.el5

- Group: **Development/Libraries**
- Summary: **Library providing a simple API virtualization**
- Description:

```
Libvirt is a C toolkit to interract with the virtualization capabilities
of recent versions of Linux (and other OSes).
```

- Added Dependencies:
  - avahi-devel
  - bridge-utils
  - dnsmasq
  - gnutls-devel
- Removed Dependencies:
  - /sbin/iptables
  - libsysfs-devel

libvorbis-1.1.2-3.el5.0 - libvorbis-1.1.2-3.el5_1.2

- Group: **System Environment/Libraries**

- Summary: **The Vorbis General Audio Compression Codec.**
- Description:

```
Ogg Vorbis is a fully open, non-proprietary, patent-and royalty-free,
general-purpose compressed audio format for audio and music at fixed
and variable bitrates from 16 to 128 kbps/channel.

The libvorbis package contains runtime libraries for use in programs
that support Ogg Voribs.
```

- No added dependencies
- No removed dependencies

libxml2-2.6.26-2.1.2 - libxml2-2.6.26-2.1.2.7

- Group: **Development/Libraries**
- Summary: **Library providing XML and HTML support**
- Description:

```
This library allows to manipulate XML files. It includes support
to read, modify and write XML and HTML files. There is DTDs support
this includes parsing and validation even with complex DtDs, either
at parse time or later once the document has been modified. The output
can be a simple SAX stream or and in-memory DOM like representations.
In this case one can use the built-in XPath and XPointer implementation
to select subnodes or ranges. A flexible Input/Output mechanism is
available, with existing HTTP and FTP modules and combined to an
URI library.
```

- No added dependencies
- No removed dependencies

libxslt-1.1.17-2 - libxslt-1.1.17-2.el5_2.2

- Group: **Development/Libraries**
- Summary: **Library providing the Gnome XSLT engine**
- Description:

```
This C library allows to transform XML files into other XML files
(or HTML, text, ...) using the standard XSLT stylesheet transformation
mechanism. To use it you need to have a version of libxml2 >= 2.6.25
installed. The xsltproc command is a command line interface to the XSLT
engine
```

- No added dependencies
- No removed dependencies

linuxwacom-0.7.4.3-2.el5 - linuxwacom-0.7.8.3-5.el5

- Group: **User Interface/X Hardware Support**
- Summary: **Wacom Drivers from Linux Wacom Project**
- Description:

```
The Linux Wacom Project manages the drivers, libraries, and
documentation for configuring and running Wacom tablets under the
Linux operating system. It contains diagnostic applications as well as
X.org XInput drivers.
```

- Added Dependencies:
  - desktop-file-utils
  - tcl-devel
  - tk-devel
- No removed dependencies

lm_sensors-2.10.0-3.1 - lm_sensors-2.10.7-4.el5

- Group: **Applications/System**
- Summary: **Hardware monitoring tools.**
- Description:

```
The lm_sensors package includes a collection of modules for general
SMBus
access and hardware monitoring. NOTE: this requires special support which
is not in standard 2.2-vintage kernels.
```

- No added dependencies
- No removed dependencies

logrotate-3.7.4-7 - logrotate-3.7.4-9

- Group: **System Environment/Base**
- Summary: **Rotates, compresses, removes and mails system log files.**
- Description:

```
The logrotate utility is designed to simplify the administration of
log files on a system which generates a lot of log files. Logrotate
allows for the automatic rotation compression, removal and mailing of
log files. Logrotate can be set to handle a log file daily, weekly,
monthly or when the log file gets to a certain size. Normally,
logrotate runs as a daily cron job.

Install the logrotate package if you need a utility to deal with the
log files on your system.
```

- No added dependencies
- No removed dependencies

logwatch-7.3-5 - logwatch-7.3-6.el5

- Group: **Applications/System**
- Summary: **A log file analysis program**
- Description:

```
Logwatch is a customizable, pluggable log-monitoring system. It will go
through your logs for a given period of time and make a report in the
areas
that you wish with the detail that you wish. Easy to use - works right out
of the package on many systems.
```

- No added dependencies
- No removed dependencies

ltrace-0.5-6.45svn.fc6 - ltrace-0.5-7.45svn.el5

- Group: **Development/Debuggers**
- Summary: **Tracks runtime library calls from dynamically linked executables.**
- Description:

```
Ltrace is a debugging program which runs a specified command until the
command exits. While the command is executing, ltrace intercepts and
records both the dynamic library calls called by the executed process
and the signals received by the executed process. Ltrace can also
intercept and print system calls executed by the process.

You should install ltrace if you need a sysadmin tool for tracking the
execution of processes.
```

- No added dependencies
- No removed dependencies

lvm2-2.02.26-3.el5 - lvm2-2.02.40-6.el5

- Group: **System Environment/Base**
- Summary: **Userland logical volume management tools**
- Description:

```
LVM2 includes all of the support for handling read/write operations on
physical volumes (hard disks, RAID-Systems, magneto optical, etc.,
multiple devices (MD), see mdadd(8) or even loop devices, see
losetup(8)), creating volume groups (kind of virtual disks) from one
or more physical volumes and creating one or more logical volumes
(kind of logical partitions) in volume groups.
```

- Added Dependencies:
  - device-mapper >= 1.02.28-2
- Removed Dependencies:
  - device-mapper >= 1.02.20-1

lvm2-cluster-2.02.26-1.el5 - lvm2-cluster-2.02.40-7.el5

- Group: **System Environment/Base**
- Summary: **Cluster extensions for userland logical volume management tools**

- Description:

```
Extensions to LVM2 to support clusters.
```

- Added Dependencies:
  - device-mapper >= 1.02.28-2
- Removed Dependencies:
  - device-mapper >= 1.02.20-1

lynx-2.8.5-28.1 - lynx-2.8.5-28.1.el5_2.1

- Group: **Applications/Internet**
- Summary: **A text-based Web browser.**
- Description:

```
Lynx is a text-based Web browser. Lynx does not display any images,
but it does support frames, tables, and most other HTML tags. One
advantage Lynx has over graphical browsers is speed; Lynx starts and
exits quickly and swiftly displays webpages.
```

- No added dependencies
- No removed dependencies

m17n-db-1.3.3-46.el5 - m17n-db-1.3.3-48.el5

- Group: **System Environment/Libraries**
- Summary: **Multilingualization datafiles for m17n-lib**
- Description:

```
This package contains multilingualization (m17n) datafiles for m17n-lib
which describe input maps, encoding maps, and OpenType font data
for many languages.
```

- No added dependencies
- No removed dependencies

m2crypto-0.16-6.el5.1 - m2crypto-0.16-6.el5.3

- Group: **System Environment/Libraries**
- Summary: **Support for using OpenSSL in python scripts**
- Description:

```
This package allows you to call OpenSSL functions from python scripts.
```

- No added dependencies
- No removed dependencies

mailman-2.1.9-2 - mailman-2.1.9-4.el5

- Group: **Applications/Internet**

- Summary: **Mailing list manager with built in Web access.**
- Description:

```
Mailman is software to help manage email discussion lists, much like
Majordomo and Smartmail. Unlike most similar products, Mailman gives
each mailing list a webpage, and allows users to subscribe,
unsubscribe, etc. over the Web. Even the list manager can administer
his or her list entirely from the Web. Mailman also integrates most
things people want to do with mailing lists, including archiving, mail
<-> news gateways, and so on.

Documentation can be found in: /usr/share/doc/mailman-2.1.9

When the package has finished installing, you will need to perform some
additional installation steps, these are described in:
/usr/share/doc/mailman-2.1.9/INSTALL.REDHAT
```

- No added dependencies
- No removed dependencies

make-3.81-1.1 - make-3.81-3.el5

- Group: **Development/Tools**
- Summary: **A GNU tool which simplifies the build process for users.**
- Description:

```
A GNU tool for controlling the generation of executables and other
non-source files of a program from the program's source files. Make
allows users to build and install packages without any significant
knowledge about the details of the build process. The details about
how the program should be built are provided for make in the program's
makefile.

The GNU make tool should be installed on your system because it is
commonly used to simplify the process of installing programs.
```

- No added dependencies
- No removed dependencies

man-pages-2.39-10.el5 - man-pages-2.39-12.el5

- Group: **Documentation**
- Summary: **Man (manual) pages from the Linux Documentation Project.**
- Description:

```
A large collection of man pages (documentation) from the Linux
Documentation Project (LDP).
```

- No added dependencies
- No removed dependencies

man-pages-ja-20060815-5 - man-pages-ja-20060815-9.el5

- Group: **Documentation**
- Summary: **Japanese man (manual) pages from the Japanese Manual Project**
- Description:

```
Japanese Manual pages, translated by JM-Project (Japanese Manual
Project).
```

- No added dependencies
- No removed dependencies

mcstrans-0.2.6-1.el5 - mcstrans-0.2.11-3.el5

- Group: **System Environment/Daemons**
- Summary: **SELinux Translation Daemon**
- Description:

```
Security-enhanced Linux is a feature of the Linux® kernel and a number
of utilities with enhanced security functionality designed to add
mandatory access controls to Linux. The Security-enhanced Linux
kernel contains new architectural components originally developed to
improve the security of the Flask operating system. These
architectural components provide general support for the enforcement
of many kinds of mandatory access control policies, including those
based on the concepts of Type Enforcement®, Role-based Access
Control, and Multi-level Security.

mcstrans provides an translation daemon to translate SELinux categories
from internal representations to user defined representation.
```

- No added dependencies
- No removed dependencies

mdadm-2.5.4-3.el5 - mdadm-2.6.4-1.el5

- Group: **System Environment/Base**
- Summary: **mdadm controls Linux md devices (software RAID arrays)**
- Description:

```
mdadm is used to create, manage, and monitor Linux MD (software RAID)
devices. As such, it provides similar functionality to the raidtools
package. However, mdadm is a single program, and it can perform
almost all functions without a configuration file, though a configuration
file can be used to help with some common tasks.
```

- No added dependencies
- No removed dependencies

mesa-6.5.1-7.5.el5 - mesa-6.5.1-7.7.el5

- Group: **System Environment/Libraries**

- Summary: **Mesa graphics libraries**
- Description:

```
Mesa
```

- No added dependencies
- No removed dependencies

metacity-2.16.0-8.el5 - metacity-2.16.0-12.el5

- Group: **User Interface/Desktops**
- Summary: **Metacity window manager**
- Description:

```
Metacity is a simple window manager that integrates nicely with
GNOME 2.
```

- No added dependencies
- No removed dependencies

microcode_ctl-1.17-1.42.el5 - microcode_ctl-1.17-1.47.el5

- Group: **System Environment/Base**
- Summary: **Tool to update x86/x86-64 CPU microcode.**
- Description:

```
microcode_ctl - updates the microcode on Intel x86/x86-64 CPU's
```

- No added dependencies
- No removed dependencies

mkinitrd-5.1.19.6-19 - mkinitrd-5.1.19.6-44

- Group: **System Environment/Base**
- Summary: **Creates an initial ramdisk image for preloading modules.**
- Description:

```
Mkinitrd creates filesystem images for use as initial ramdisk (initrd)
images. These ramdisk images are often used to preload the block
device modules (SCSI or RAID) needed to access the root filesystem.

In other words, generic kernels can be built without drivers for any
SCSI adapters which load the SCSI driver as a module. Since the
kernel needs to read those modules, but in this case it isn't able to
address the SCSI adapter, an initial ramdisk is used. The initial
ramdisk is loaded by the operating system loader (normally LILO) and
is available to the kernel as soon as the ramdisk is loaded. The
ramdisk image loads the proper SCSI adapter and allows the kernel to
mount the root filesystem. The mkinitrd program creates such a
ramdisk using information found in the /etc/modules.conf file.
```

- Added Dependencies:
  - libdhcp-devel >= 1.20-6
- Removed Dependencies:
  - libdhcp-devel >= 1.9

mlocate-0.15-1.el5 - mlocate-0.15-1.el5.1

- Group: **Applications/System**
- Summary: **An utility for finding files by name**
- Description:

```
mlocate is a locate/updatedb implementation. It keeps a database of
all existing files and allows you to lookup files by name.

The 'm' stands for "merging": updatedb reuses the existing database to
avoid
rereading most of the file system, which makes updatedb faster and does
not
trash the system caches as much as traditional locate implementations.
```

- No added dependencies
- No removed dependencies

mod_nss-1.0.3-4.el5 - mod_nss-1.0.3-6.el5

- Group: **System Environment/Daemons**
- Summary: **SSL/TLS module for the Apache HTTP server**
- Description:

```
The mod_nss module provides strong cryptography for the Apache Web
server via the Secure Sockets Layer (SSL) and Transport Layer
Security (TLS) protocols using the Network Security Services (NSS)
security library.
```

- No added dependencies
- No removed dependencies

mod_perl-2.0.2-6.3.el5 - mod_perl-2.0.4-6.el5

- Group: **System Environment/Daemons**
- Summary: **An embedded Perl interpreter for the Apache HTTP Server**
- Description:

```
Mod_perl incorporates a Perl interpreter into the Apache web server,
so that the Apache web server can directly execute Perl code.
Mod_perl links the Perl runtime library into the Apache web server and
provides an object-oriented Perl interface for Apache's C language
API. The end result is a quicker CGI script turnaround process, since
no external Perl interpreter has to be started.

Install mod_perl if you're installing the Apache web server and you'd
like for it to directly incorporate a Perl interpreter.
```

- Added Dependencies:
  - perl
  - perl(ExtUtils::Embed)
- Removed Dependencies:
  - perl >= 1:5.6.1

module-init-tools-3.3-0.pre3.1.34.el5 - module-init-tools-3.3-0.pre3.1.42.el5

- Group: **System Environment/Kernel**
- Summary: **Kernel module management utilities.**
- Description:

```
The modutils package includes various programs needed for automatic
loading and unloading of modules under 2.6 and later kernels, as well
as other module management programs. Device drivers and filesystems
are two examples of loaded and unloaded modules.
```

- No added dependencies
- No removed dependencies

mozldap-6.0.4-1.el5 - mozldap-6.0.5-1.el5

- Group: **System Environment/Libraries**
- Summary: **Mozilla LDAP C SDK**
- Description:

```
The Mozilla LDAP C SDK is a set of libraries that
allow applications to communicate with LDAP directory
servers. These libraries are derived from the University
of Michigan and Netscape LDAP libraries. They use Mozilla
NSPR and NSS for crypto.
```

- No added dependencies
- No removed dependencies

mysql-5.0.22-2.1.0.1 - mysql-5.0.45-7.el5

- Group: **Applications/Databases**
- Summary: **MySQL client programs and shared libraries.**
- Description:

```
MySQL is a multi-user, multi-threaded SQL database server. MySQL is a
client/server implementation consisting of a server daemon (mysqld)
and many different client programs and libraries. The base package
contains the MySQL client programs, the client shared libraries, and
generic MySQL files.
```

- Added Dependencies:
  - gawk
- No removed dependencies

nautilus-2.16.2-6.el5 - nautilus-2.16.2-7.el5

- Group: **User Interface/Desktops**
- Summary: **Nautilus is a file manager for GNOME.**
- Description:

```
Nautilus integrates access to files, applications, media,
Internet-based resources and the Web. Nautilus delivers a dynamic and
rich user experience. Nautilus is an free software project developed
under the GNU General Public License and is a core component of the
GNOME desktop project.
```

- No added dependencies
- No removed dependencies

neon-0.25.5-5.1 - neon-0.25.5-10.el5

- Group: **Applications/Publishing**
- Summary: **An HTTP and WebDAV client library**
- Description:

```
neon is an HTTP and WebDAV client library, with a C interface;
providing a high-level interface to HTTP and WebDAV methods along
with a low-level interface for HTTP request handling. neon
supports persistent connections, proxy servers, basic, digest and
Kerberos authentication, and has complete SSL support.
```

- No added dependencies
- No removed dependencies

net-snmp-5.3.1-19.el5 - net-snmp-5.3.2.2-5.el5

- Group: **System Environment/Daemons**
- Summary: **A collection of SNMP protocol tools and libraries.**
- Description:

```
SNMP (Simple Network Management Protocol) is a protocol used for
network management. The NET-SNMP project includes various SNMP tools:
an extensible agent, an SNMP library, tools for requesting or setting
information from SNMP agents, tools for generating and handling SNMP
traps, a version of the netstat command which uses SNMP, and a Tk/Perl
mib browser. This package contains the snmpd and snmptrapd daemons,
documentation, etc.

You will probably also want to install the net-snmp-utils package,
which contains NET-SNMP utilities.

Building option:
--without tcp_wrappers : disable tcp_wrappers support
```

- No added dependencies
- No removed dependencies

net-tools-1.60-73 - net-tools-1.60-78.el5

- Group: **System Environment/Base**
- Summary: **Basic networking tools.**
- Description:

```
The net-tools package contains basic networking tools, including
ifconfig, netstat, route, and others.
```

- No added dependencies
- No removed dependencies

newt-0.52.2-9 - newt-0.52.2-12.el5

- Group: **System Environment/Libraries**
- Summary: **A development library for text mode user interfaces.**
- Description:

```
Newt is a programming library for color text mode, widget based user
interfaces. Newt can be used to add stacked windows, entry widgets,
checkboxes, radio buttons, labels, plain text fields, scrollbars,
etc., to text mode user interfaces. This package also contains the
shared library needed by programs built with newt, as well as a
/usr/bin/dialog replacement called whiptail. Newt is based on the
slang library.
```

- No added dependencies
- No removed dependencies

nfs-utils-1.0.9-24.el5 - nfs-utils-1.0.9-40.el5

- Group: **System Environment/Daemons**
- Summary: **NFS utilities and supporting clients and daemons for the kernel NFS server.**
- Description:

```
The nfs-utils package provides a daemon for the kernel NFS server and
related tools, which provides a much higher level of performance than
the
traditional Linux NFS server used by most users.

This package also contains the showmount program. Showmount queries the
mount daemon on a remote host for information about the NFS (Network
File
System) server on the remote host. For example, showmount can display
the
clients which are mounted on that host.

This package also contains the mount.nfs and umount.nfs program.
```

- Added Dependencies:
  - tcp_wrappers
- No removed dependencies

notification-daemon-0.3.5-8.el5 - notification-daemon-0.3.5-9.el5

- Group: **System Environment/Libraries**
- Summary: **Notification Daemon**
- Description:

```
notification-daemon is the server implementation of the freedesktop.org
desktop
notification specification.
```

- No added dependencies
- No removed dependencies

nspr-4.6.5-3.el5 - nspr-4.7.3-2.el5

- Group: **System Environment/Libraries**
- Summary: **Netscape Portable Runtime**
- Description:

```
NSPR provides platform independence for non-GUI operating system
facilities. These facilities include threads, thread synchronization,
normal file and network I/O, interval timing and calendar time, basic
memory management (malloc and free) and shared library linking.
```

- No added dependencies
- No removed dependencies

nss-3.11.7-1.3.el5 - nss-3.12.2.0-2.el5

- Group: **System Environment/Libraries**
- Summary: **Network Security Services**
- Description:

```
Network Security Services (NSS) is a set of libraries designed to
support cross-platform development of security-enabled client and
server applications. Applications built with NSS can support SSL v2
and v3, TLS, PKCS #5, PKCS #7, PKCS #11, PKCS #12, S/MIME, X.509
v3 certificates, and other security standards.
```

- Added Dependencies:
  - nspr-devel >= 4.6.99
  - zlib-devel
- Removed Dependencies:
  - nspr-devel >= 4.6.2

nss_db-2.2-35.1 - nss_db-2.2-35.3

- Group: **System Environment/Libraries**
- Summary: **An NSS library for the Berkeley DB.**
- Description:

```
Nss_db is a set of C library extensions which allow Berkeley Databases
to be used as a primary source of aliases, ethers, groups, hosts,
networks, protocol, users, RPCs, services, and shadow passwords
(instead of or in addition to using flat files or NIS). Install nss_db
if your flat name service files are too large and lookups are slow.
```

- No added dependencies
- No removed dependencies

nss_ldap-253-5.el5 - nss_ldap-253-17.el5

- Group: **System Environment/Base**
- Summary: **NSS library and PAM module for LDAP.**
- Description:

```
This package includes two LDAP access clients: nss_ldap and pam_ldap.
Nss_ldap is a set of C library extensions that allow X.500 and LDAP
directory servers to be used as a primary source of aliases, ethers,
groups, hosts, networks, protocol, users, RPCs, services, and shadow
passwords (instead of or in addition to using flat files or NIS).

Pam_ldap is a module for Linux-PAM that supports password changes, V2
clients, Netscape's SSL, ypldapd, Netscape Directory Server password
policies, access authorization, and crypted hashes.
```

- Added Dependencies:
  - fipscheck-devel
  - keyutils-libs-devel
  - libselinux-devel
- No removed dependencies

ntp-4.2.2p1-7.el5 - ntp-4.2.2p1-9.el5

- Group: **System Environment/Daemons**
- Summary: **Synchronizes system time using the Network Time Protocol (NTP).**
- Description:

```
The Network Time Protocol (NTP) is used to synchronize a computer's
time with another reference time source. The ntp package contains
utilities and daemons that will synchronize your computer's time to
Coordinated Universal Time (UTC) via the NTP protocol and NTP servers.
The ntp package includes ntpdate (a program for retrieving the date
and time from remote machines via a network) and ntpd (a daemon which
continuously adjusts system time).

Install the ntp package if you need tools for keeping your system's
time synchronized via the NTP protocol.
```

- Added Dependencies:
  - perl-HTML-Parser
- No removed dependencies

numactl-0.9.8-2.el5 - numactl-0.9.8-7.el5

- Group: **System Environment/Base**
- Summary: **library for tuning for Non Uniform Memory Access machines**
- Description:

```
Simple NUMA policy support. It consists of a numactl program to run
other programs with a specific NUMA policy and a libnuma to do
allocations with NUMA policy in applications.
```

- No added dependencies
- No removed dependencies

oddjob-0.27-7 - oddjob-0.27-9.el5

- Group: **System Environment/Daemons**
- Summary: **A D-BUS service which runs odd jobs on behalf of client applications**
- Description:

```
oddjob is a D-BUS service which performs particular tasks for clients
which
connect to it and issue requests using the system-wide message bus.
```

- No added dependencies
- No removed dependencies

openCryptoki-2.2.4-16.el5 - openCryptoki-2.2.4-22.el5

- Group: **Productivity/Security**
- Summary: **Implementation of Cryptoki v2.11 for IBM Crypto Hardware**

- Description:

```
The PKCS#11 Version 2.11 api implemented for the IBM Crypto cards.
This package includes support for the IBM 4758 Cryptographic
CoProcessor (with the PKCS#11 firmware loaded) and the IBM eServer
Cryptographic Accelerator (FC 4960 on pSeries)
```

- Added Dependencies:
  - trousers-devel
- No removed dependencies

openais-0.80.3-7.el5 - openais-0.80.3-22.el5

- Group: **System Environment/Base**
- Summary: **The openais Standards-Based Cluster Framework executive and APIs**
- Description:

```
This package contains the openais executive, openais service handlers,
default configuration files and init script.
```

- No added dependencies
- No removed dependencies

openhpi-2.8.1-2.el5.7 - openhpi-2.10.2-1.el5

- Group: **System Environment/Base**
- Summary: **openhpi Hardware Platform Interface (HPI) library and tools**
- Description:

```
OpenHPI is an open source project created with the intent of providing
an
implementation of the SA Forum's Hardware Platform Interface (HPI). HPI
provides an abstracted interface to managing computer hardware,
typically for
chassis and rack based servers. HPI includes resource modeling; access to
and
control over sensor, control, watchdog, and inventory data associated
with
resources; abstracted System Event Log interfaces; hardware events and
alerts;
and a managed hotswap interface.

OpenHPI provides a modular mechanism for adding new hardware and device
support
easily. Many plugins exist in the OpenHPI source tree to provide access
to
various types of hardware. This includes, but is not limited to, IPMI
based
servers, Blade Center, and machines which export data via sysfs.
```

- No added dependencies

- No removed dependencies

openib-1.2-6.el5 - openib-1.3.2-0.20080728.0355.3.el5

- Group: **System Environment/Base**
- Summary: **OpenIB Infiniband Driver Stack**
- Description:

```
User space initialization scripts for the kernel InfiniBand drivers
```

- No added dependencies
- Removed Dependencies:
  - autoconf
  - automake
  - libsysfs-devel
  - libtool
  - pciutils-devel
  - zlib-devel

openldap-2.3.27-8 - openldap-2.3.43-3.el5

- Group: **System Environment/Daemons**
- Summary: **The configuration files, libraries, and documentation for OpenLDAP.**
- Description:

```
OpenLDAP is an open source suite of LDAP (Lightweight Directory Access
Protocol) applications and development tools. LDAP is a set of
protocols for accessing directory services (usually phone book style
information, but other information is possible) over the Internet,
similar to the way DNS (Domain Name System) information is propagated
over the Internet. The openldap package contains configuration files,
libraries, and documentation for OpenLDAP.
```

- No added dependencies
- No removed dependencies

openmotif-2.3.0-0.3.el5 - openmotif-2.3.1-2.el5

- Group: **System Environment/Libraries**
- Summary: **Open Motif runtime libraries and executables.**
- Description:

```
This is the Open Motif 2.3.1 runtime environment. It includes the
Motif shared libraries, needed to run applications which are dynamically
linked against Motif, and the Motif Window Manager "mwm".
```

- No added dependencies
- No removed dependencies

openmpi-1.2.3-4.el5 - openmpi-1.2.7-6.el5

- Group: **Development/Libraries**
- Summary: **Open Message Passing Interface**
- Description:

```
Open MPI is an open source, freely available implementation of both the
MPI-1 and MPI-2 standards, combining technologies and resources from
several other projects (FT-MPI, LA-MPI, LAM/MPI, and PACX-MPI) in
order to build the best MPI library available. A completely new MPI-2
compliant implementation, Open MPI offers advantages for system and
software vendors, application developers, and computer science
researchers. For more information, see http://www.open-mpi.org/ .
```

- Added Dependencies:
  - compat-dapl-devel
- Removed Dependencies:
  - dapl-devel
  - libsysfs-devel

openssh-4.3p2-24.el5 - openssh-4.3p2-29.el5

- Group: **Applications/Internet**
- Summary: **The OpenSSH implementation of SSH protocol versions 1 and 2**
- Description:

```
SSH (Secure SHell) is a program for logging into and executing
commands on a remote machine. SSH is intended to replace rlogin and
rsh, and to provide secure encrypted communications between two
untrusted hosts over an insecure network. X11 connections and
arbitrary TCP/IP ports can also be forwarded over the secure channel.

OpenSSH is OpenBSD's version of the last free version of SSH, bringing
it up to date in terms of security and features, as well as removing
all patented algorithms to separate libraries.

This package includes the core files necessary for both the OpenSSH
client and server. To make this package useful, you should also
install openssh-clients, openssh-server, or both.
```

- Added Dependencies:
  - openssl-devel >= 0.9.8e
- Removed Dependencies:
  - openssl-devel

openssl-0.9.8b-8.3.el5_0.2 - openssl-0.9.8e-7.el5

- Group: **System Environment/Libraries**
- Summary: **The OpenSSL toolkit**
- Description:

```
The OpenSSL toolkit provides support for secure communications between
machines. OpenSSL includes a certificate management tool and shared
libraries which provide various cryptographic algorithms and
protocols.
```

- Added Dependencies:
  - fipscheck
- No removed dependencies

openssl097a-0.9.7a-9 - openssl097a-0.9.7a-9.el5_2.1

- Group: **System Environment/Libraries**
- Summary: **The OpenSSL toolkit**
- Description:

```
The OpenSSL toolkit provides support for secure communications between
machines. OpenSSL includes a certificate management tool and shared
libraries which provide various cryptographic algorithms and
protocols.
```

- No added dependencies
- No removed dependencies

oprofile-0.9.2-6.el5 - oprofile-0.9.3-18.el5

- Group: **Development/System**
- Summary: **System wide profiler**
- Description:

```
OProfile is a profiling system for systems running Linux. The
profiling runs transparently during the background, and profile data
can be collected at any time. OProfile makes use of the hardware
performance
counters provided on Intel P6, and AMD Athlon family processors, and can
use
the RTC for profiling on other x86 processor types.

See the HTML documentation for further details.
```

- No added dependencies
- No removed dependencies

pam-0.99.6.2-3.26.el5 - pam-0.99.6.2-4.el5

- Group: **System Environment/Base**
- Summary: **A security tool which provides authentication for applications**
- Description:

```
PAM (Pluggable Authentication Modules) is a system security tool that
allows system administrators to set authentication policy without
having to recompile programs that handle authentication.
```

- Added Dependencies:
  - audit-libs-devel >= 1.6.5
  - kernel-headers >= 2.6.18-114
- Removed Dependencies:
  - audit-libs-devel >= 1.0.8

pam_krb5-2.2.14-1 - pam_krb5-2.2.14-10

- Group: **System Environment/Base**
- Summary: **A Pluggable Authentication Module for Kerberos 5.**
- Description:

```
This is pam_krb5, a pluggable authentication module that can be used with
Linux-PAM and Kerberos 5. This module supports password checking, ticket
creation, and optional TGT verification and conversion to Kerberos IV
tickets.
The included pam_krb5afs module also gets AFS tokens if so configured.
```

- Added Dependencies:
  - autoconf
  - automake
  - libtool
- No removed dependencies

paps-0.6.6-17.el5 - paps-0.6.6-18.el5

- Group: **Applications/Publishing**
- Summary: **Plain Text to PostScript converter**
- Description:

```
paps is a PostScript converter from plain text file using Pango.
```

- No added dependencies
- No removed dependencies

parted-1.8.1-12.el5 - parted-1.8.1-23.el5

- Group: **Applications/System**
- Summary: **The GNU disk partition manipulation program**
- Description:

```
The GNU Parted program allows you to create, destroy, resize, move,
and copy hard disk partitions. Parted can be used for creating space
for new operating systems, reorganizing disk usage, and copying data
to new hard disks.
```

- No added dependencies
- No removed dependencies

patch-2.5.4-29.2.2 - patch-2.5.4-29.2.3.el5

- Group: **Development/Tools**
- Summary: **The GNU patch command, for modifying/upgrading files.**
- Description:

```
The patch program applies diff files to originals. The diff command
is used to compare an original to a changed file. Diff lists the
changes made to the file. A person who has the original file can then
use the patch command with the diff file to add the changes to their
original file (patching the file).

Patch should be installed because it is a common way of upgrading
applications.
```

- No added dependencies
- No removed dependencies

pciutils-2.2.3-4 - pciutils-2.2.3-5

- Group: **Applications/System**
- Summary: **PCI bus related utilities.**
- Description:

```
The pciutils package contains various utilities for inspecting and
setting devices connected to the PCI bus. The utilities provided
require kernel version 2.1.82 or newer (which support the
/proc/bus/pci interface).
```

- No added dependencies
- No removed dependencies

pcre-6.6-1.1 - pcre-6.6-2.el5_1.7

- Group: **System Environment/Libraries**
- Summary: **Perl-compatible regular expression library**
- Description:

```
Perl-compatible regular expression library.
PCRE has its own native API, but a set of "wrapper" functions that are
based on
the POSIX API are also supplied in the library libpcreposix. Note that
this
just provides a POSIX calling interface to PCRE: the regular expressions
themselves still follow Perl syntax and semantics. The header file
for the POSIX-style functions is called pcreposix.h.
```

- No added dependencies

- No removed dependencies

pcsc-lite-1.3.1-7 - pcsc-lite-1.4.4-0.1.el5

- Group: **System Environment/Daemons**
- Summary: **PC/SC Lite smart card framework and applications**
- Description:

```
The purpose of PC/SC Lite is to provide a Windows(R) SCard interface
in a very small form factor for communicating to smartcards and
readers. PC/SC Lite uses the same winscard API as used under
Windows(R). This package includes the PC/SC Lite daemon, a resource
manager that coordinates communications with smart card readers and
smart cards that are connected to the system, as well as other command
line tools.
```

- No added dependencies
- No removed dependencies

perl-5.8.8-10 - perl-5.8.8-18.el5

- Group: **Development/Languages**
- Summary: **The Perl programming language**
- Description:

```
Perl is a high-level programming language with roots in C, sed, awk
and shell scripting. Perl is good at handling processes and files,
and is especially good at handling text. Perl's hallmarks are
practicality and efficiency. While it is used to do a lot of
different things, Perl's most common applications are system
administration utilities and web programming. A large proportion of
the CGI scripts on the web are written in Perl. You need the perl
package installed on your system so that your system can handle Perl
scripts.

Install this package if you want to program in Perl or enable your
system to handle Perl scripts.
```

- No added dependencies
- No removed dependencies

perl-DBD-MySQL-3.0007-1.fc6 - perl-DBD-MySQL-3.0007-2.el5

- Group: **Development/Libraries**
- Summary: **A MySQL interface for perl**
- Description:

```
An implementation of DBI for MySQL for Perl.
```

- Added Dependencies:
  - perl-DBI >= 1.52-2
- Removed Dependencies:

- perl(DBI)

perl-DBD-Pg-1.49-1.fc6 - perl-DBD-Pg-1.49-2.el5

- Group: **Development/Libraries**
- Summary: **A PostgresSQL interface for perl**
- Description:

```
An implementation of DBI for PostgreSQL for Perl.
```

- Added Dependencies:
  - perl-DBI >= 1.52-2
- Removed Dependencies:
  - perl-DBI >= 1.38

perl-DBI-1.52-1.fc6 - perl-DBI-1.52-2.el5

- Group: **Development/Libraries**
- Summary: **A database access API for perl**
- Description:

```
DBI is a database access Application Programming Interface (API) for
the Perl Language. The DBI API Specification defines a set of
functions, variables and conventions that provide a consistent
database interface independent of the actual database being used.
```

- No added dependencies
- No removed dependencies

pfmon-3.2-0.060926.4.el5 - pfmon-3.2-0.060926.5.el5

- Group: **Development/Tools**
- Summary: **a performance monitoring tool for Linux/ia64**
- Description:

```
This package contains pfmon 3.x, a tool to monitor performance using
the Performance Monitor Unit (PMU). Pfmon can monitor
standalone programs or the entire system on both UP and SMP Linux
systems.
This version
of pfmon requires a kernel perfmon-2.x (found in 2.6 kernels) subsystem
to
function properly.
```

- No added dependencies
- No removed dependencies

php-5.1.6-15.el5 - php-5.1.6-23.el5

- Group: **Development/Languages**

- Summary: **The PHP HTML-embedded scripting language. (PHP: Hypertext Preprocessor)**
- Description:

```
PHP is an HTML-embedded scripting language. PHP attempts to make it
easy for developers to write dynamically generated webpages. PHP also
offers built-in database integration for several commercial and
non-commercial database management systems, so writing a
database-enabled webpage with PHP is fairly simple. The most common
use of PHP coding is probably as a replacement for CGI scripts.

The php package contains the module which adds support for the PHP
language to Apache HTTP Server.
```

- No added dependencies
- No removed dependencies

php-pear-1.4.9-4 - php-pear-1.4.9-4.el5.1

- Group: **System**
- Summary: **PHP Extension and Application Repository framework**
- Description:

```
PEAR is a framework and distribution system for reusable PHP
components. This package contains the basic PEAR components.
```

- No added dependencies
- No removed dependencies

piranha-0.8.4-7.el5 - piranha-0.8.4-11.el5

- Group: **System Environment/Base**
- Summary: **Cluster administation tools**
- Description:

```
Various tools to administer and configure the Linux Virtual Server as
well as
heartbeating and failover components. The LVS is a dynamically adjusted
kernel routing mechanism that provides load balancing primarily for web
and ftp servers though other services are supported.
```

- No added dependencies
- No removed dependencies

pirut-1.2.10-1.el5 - pirut-1.3.28-13.el5

- Group: **Applications/System**
- Summary: **Package Installation, Removal and Update Tools**
- Description:

```
pirut (pronounced "pirate") provides a set of graphical tools for
managing
software.
```

- No added dependencies
- No removed dependencies

pkgconfig-0.21-1.fc6 - pkgconfig-0.21-2.el5

- Group: **Development/Tools**
- Summary: **A tool for determining compilation options.**
- Description:

```
The pkgconfig tool determines compilation options. For each required
library, it reads the configuration file and outputs the necessary
compiler and linker flags.
```

- No added dependencies
- No removed dependencies

pkinit-nss-0.7.3-1.el5 - pkinit-nss-0.7.6-1.el5

- Group: **System Environment/Libraries**
- Summary: **PKINIT for MIT Kerberos**
- Description:

```
The pkinit-nss package implements the PKINIT standard for MIT Kerberos.
It
does so using the Mozilla NSS library.
```

- No added dependencies
- No removed dependencies

pm-utils-0.99.3-6.el5.17 - pm-utils-0.99.3-10.el5

- Group: **System Environment/Base**
- Summary: **Power management utilities and scripts for Fedora Core**
- Description:

```
The pm-utils package contains utilities and scripts for Fedora Core
useful for power management.
```

- No added dependencies
- No removed dependencies

policycoreutils-1.33.12-12.el5 - policycoreutils-1.33.12-14.2.el5

- Group: **System Environment/Base**
- Summary: **SELinux policy core utilities.**

- Description:

```
Security-enhanced Linux is a feature of the Linux® kernel and a number
of utilities with enhanced security functionality designed to add
mandatory access controls to Linux. The Security-enhanced Linux
kernel contains new architectural components originally developed to
improve the security of the Flask operating system. These
architectural components provide general support for the enforcement
of many kinds of mandatory access control policies, including those
based on the concepts of Type Enforcement®, Role-based Access
Control, and Multi-level Security.

policycoreutils contains the policy core utilities that are required
for basic operation of a SELinux system. These utilities include
load_policy to load policies, setfiles to label filesystems, newrole
to switch roles, and run_init to run /etc/init.d scripts in the proper
context.
```

- No added dependencies
- No removed dependencies

poppler-0.5.4-4.1.el5 - poppler-0.5.4-4.4.el5_1

- Group: **Development/Libraries**
- Summary: **PDF rendering library**
- Description:

```
Poppler, a PDF rendering library, it's a fork of the xpdf PDF
viewer developed by Derek Noonburg of Glyph and Cog, LLC.
```

- No added dependencies
- No removed dependencies

postfix-2.3.3-2 - postfix-2.3.3-2.1.el5_2

- Group: **System Environment/Daemons**
- Summary: **Postfix Mail Transport Agent**
- Description:

```
Postfix is a Mail Transport Agent (MTA), supporting LDAP, SMTP AUTH
(SASL),
TLS
```

- No added dependencies
- No removed dependencies

postgresql-8.1.9-1.el5 - postgresql-8.1.11-1.el5_1.1

- Group: **Applications/Databases**
- Summary: **PostgreSQL client programs and libraries.**
- Description:

```
PostgreSQL is an advanced Object-Relational database management system
(DBMS) that supports almost all SQL constructs (including
transactions, subselects and user-defined types and functions). The
postgresql package includes the client programs and libraries that
you'll need to access a PostgreSQL DBMS server. These PostgreSQL
client programs are programs that directly manipulate the internal
structure of PostgreSQL databases on a PostgreSQL server. These client
programs can be located on the same machine with the PostgreSQL
server, or may be on a remote machine which accesses a PostgreSQL
server over a network connection. This package contains the docs
in HTML for the whole package, as well as command-line utilities for
managing PostgreSQL databases on a PostgreSQL server.

If you want to manipulate a PostgreSQL database on a remote PostgreSQL
server, you need this package. You also need to install this package
if you're installing the postgresql-server package.
```

- No added dependencies
- No removed dependencies

ppc64-utils-0.11-2 - ppc64-utils-0.11-10.el5

- Group: **System Environment/Base**
- Summary: **Linux/PPC64 specific utilities**
- Description:

```
A collection of utilities for Linux on PPC64 platforms.
```

- Added Dependencies:
  - db4-devel
  - librtas-devel >= 1.3.3
  - libstdc++-devel
  - libtool
  - sg3_utils-devel
  - zlib-devel
- Removed Dependencies:
  - librtas-devel

ppp-2.4.4-1.el5 - ppp-2.4.4-2.el5

- Group: **System Environment/Daemons**
- Summary: **The PPP (Point-to-Point Protocol) daemon.**
- Description:

```
The ppp package contains the PPP (Point-to-Point Protocol) daemon and
documentation for PPP support. The PPP protocol provides a method for
transmitting datagrams over serial point-to-point links. PPP is
usually used to dial in to an ISP (Internet Service Provider) or other
organization over a modem and phone line.
```

- No added dependencies

- No removed dependencies

prelink-0.3.9-2.1 - prelink-0.4.0-2.el5

- Group: **System Environment/Base**
- Summary: **An ELF prelinking utility**
- Description:

```
The prelink package contains a utility which modifies ELF shared
libraries
and executables, so that far fewer relocations need to be resolved at
runtime
and thus programs come up faster.
```

- No added dependencies
- No removed dependencies

privoxy-3.0.3-9.2.2 - privoxy-3.0.3-9.3.el5

- Group: **System Environment/Daemons**
- Summary: **Privoxy - privacy enhancing proxy**
- Description:

```
Privoxy is a web proxy with advanced filtering capabilities for
protecting privacy, filtering web page content, managing cookies,
controlling access, and removing ads, banners, pop-ups and other
obnoxious Internet junk. Privoxy has a very flexible configuration and
can be customized to suit individual needs and tastes. Privoxy has
application
for both stand-alone systems and multi-user networks.

Privoxy is based on the Internet Junkbuster.
```

- Added Dependencies:
  - pcre-devel
- No removed dependencies

procps-3.2.7-8.1.el5 - procps-3.2.7-11.1.el5

- Group: **Applications/System**
- Summary: **System and process monitoring utilities.**
- Description:

```
The procps package contains a set of system utilities that provide
system information. Procps includes ps, free, skill, pkill, pgrep,
snice, tload, top, uptime, vmstat, w, watch and pdwx. The ps command
displays a snapshot of running processes. The top command provides
a repetitive update of the statuses of running processes. The free
command displays the amounts of free and used memory on your
system. The skill command sends a terminate command (or another
specified signal) to a specified set of processes. The snice
command is used to change the scheduling priority of specified
processes. The tload command prints a graph of the current system
load average to a specified tty. The uptime command displays the
current time, how long the system has been running, how many users
are logged on, and system load averages for the past one, five,
and fifteen minutes. The w command displays a list of the users
who are currently logged on and what they are running. The watch
program watches a running program. The vmstat command displays
virtual memory statistics about processes, memory, paging, block
I/O, traps, and CPU activity. The pwdx command reports the current
working directory of a process or processes.
```

- No added dependencies
- No removed dependencies

psacct-6.3.2-41.1 - psacct-6.3.2-44.el5

- Group: **Applications/System**
- Summary: **Utilities for monitoring process activities.**
- Description:

```
The psacct package contains several utilities for monitoring process
activities, including ac, lastcomm, accton and sa. The ac command
displays statistics about how long users have been logged on. The
lastcomm command displays information about previous executed
commands. The accton command turns process accounting on or off. The
sa command summarizes information about previously executed
commands.
```

- No added dependencies
- No removed dependencies

psmisc-22.2-5 - psmisc-22.2-6

- Group: **Applications/System**
- Summary: **Utilities for managing processes on your system.**
- Description:

```
The psmisc package contains utilities for managing processes on your
system: pstree, killall and fuser. The pstree command displays a tree
structure of all of the running processes on your system. The killall
command sends a specified signal (SIGTERM if nothing is specified) to
processes identified by name. The fuser command identifies the PIDs
of processes that are using specified files or filesystems.
```

- No added dependencies

- No removed dependencies

pygtk2-2.10.1-8.el5 - pygtk2-2.10.1-12.el5

- Group: **Development/Languages**
- Summary: **Python bindings for the GTK+ widget set.**
- Description:

```
PyGTK is an extension module for python that gives you access to the GTK+
widget set. Just about anything you can write in C with GTK+ you can
write
in python with PyGTK (within reason), but with all the benefits of
python.
```

- No added dependencies
- No removed dependencies

pykickstart-0.43-1.el5 - pykickstart-0.43.3-1.el5

- Group: **System Environment/Libraries**
- Summary: **A python library for manipulating kickstart files**
- Description:

```
The pykickstart package is a python library for manipulating kickstart
files.
```

- No added dependencies
- No removed dependencies

python-2.4.3-19.el5 - python-2.4.3-24.el5

- Group: **Development/Languages**
- Summary: **An interpreted, interactive, object-oriented programming language.**
- Description:

```
Python is an interpreted, interactive, object-oriented programming
language often compared to Tcl, Perl, Scheme or Java. Python includes
modules, classes, exceptions, very high level dynamic data types and
dynamic typing. Python supports interfaces to many system calls and
libraries, as well as to various windowing systems (X11, Motif, Tk,
Mac and MFC).

Programmers can write new built-in modules for Python in C or C++.
Python can be used as an extension language for applications that need
a programmable interface. This package contains most of the standard
Python modules, as well as modules for interfacing to the Tix widget
set for Tk and RPM.

Note that documentation for Python is provided in the python-docs
package.
```

- No added dependencies
- No removed dependencies

python-pyblock-0.26-1.el5 - python-pyblock-0.26-3.el5

- Group: **System Environment/Libraries**
- Summary: **Python modules for dealing with block devices**
- Description:

```
The pyblock contains Python modules for dealing with block devices.
```

- Added Dependencies:
  - dmraid-devel >= 1.0.0.rc13-14
- Removed Dependencies:
  - dmraid-devel >= 1.0.0.rc11-FC6.3

python-urlgrabber-3.1.0-2 - python-urlgrabber-3.1.0-5.el5

- Group: **Development/Libraries**
- Summary: **A high-level cross-protocol url-grabber**
- Description:

```
A high-level cross-protocol url-grabber for python supporting HTTP, FTP
and file locations. Features include keepalive, byte ranges, throttling,
authentication, proxies and more.
```

- No added dependencies
- No removed dependencies

python-virtinst-0.103.0-3.el5 - python-virtinst-0.300.2-12.el5

- Group: **Development/Libraries**
- Summary: **Python modules for starting Xen guest installations**
- Description:

```
virtinst is a module to help in starting installations of Fedora/Red
Hat Enterprise Linux related distributions inside of virtual machines. It
supports both paravirt guests (for which only FC and RHEL guests are
currently supported) as well as fully virtualized guests. It uses
libvirt (http://www.libvirt.org) for starting things.

Also contained is a simple script virt-install which uses
virtinst in a command line mode.
```

- Added Dependencies:
  - gettext
  - python
- Removed Dependencies:
  - python-devel

quota-3.13-1.2.3.2.el5 - quota-3.13-1.2.5.el5

- Group: **System Environment/Base**
- Summary: **System administration tools for monitoring users' disk usage.**
- Description:

```
The quota package contains system administration tools for monitoring
and limiting user and or group disk usage per filesystem.
```

- No added dependencies
- No removed dependencies

rdate-1.4-6 - rdate-1.4-8.el5

- Group: **Applications/System**
- Summary: **Tool for getting the date/time from a remote machine.**
- Description:

```
The rdate utility retrieves the date and time from another machine on
your network, using the protocol described in RFC 868. If you run
rdate as root, it will set your machine's local time to the time of
the machine that you queried.
```

- No added dependencies
- No removed dependencies

rdesktop-1.4.1-4 - rdesktop-1.4.1-6

- Group: **User Interface/Desktops**
- Summary: **X client for remote desktop into Windows Terminal Server**
- Description:

```
rdesktop is an open source client for Windows NT Terminal Server and
Windows 2000 & 2003 Terminal Services, capable of natively speaking
Remote Desktop Protocol (RDP) in order to present the user's NT
desktop. Unlike Citrix ICA, no server extensions are required.
```

- No added dependencies
- No removed dependencies

redhat-menus-6.7.8-2.el5 - redhat-menus-6.7.8-3.el5

- Group: **User Interface/Desktops**
- Summary: **Configuration and data files for the desktop menus**
- Description:

```
This package contains the XML files that describe the menu layout for
GNOME and KDE, and the .desktop files that define the names and icons
of "subdirectories" in the menus.
```

- No added dependencies
- No removed dependencies

redhat-release-5Server-5.1.0.2 - redhat-release-5Server-5.3.0.3

- Group: **System Environment/Base**
- Summary: **Red Hat Enterprise Linux release file**
- Description:

```
Red Hat Enterprise Linux release files
```

- No added dependencies
- No removed dependencies

redhat-release-notes-5Server-9 - redhat-release-notes-5Server-25

- Group: **System Environment/Base**
- Summary: **Red Hat Enterprise Linux release notes files**
- Description:

```
Red Hat Enterprise Linux release notes files.
```

- No added dependencies
- No removed dependencies

redhat-rpm-config-8.0.45-22.el5 - redhat-rpm-config-8.0.45-29.el5

- Group: **Development/System**
- Summary: **Red Hat specific rpm configuration files.**
- Description:

```
Red Hat specific rpm configuration files.
```

- No added dependencies
- No removed dependencies

rgmanager-2.0.31-1.el5 - rgmanager-2.0.46-1.el5

- Group: **System Environment/Base**
- Summary: **Open Source HA Resource Group Failover for Red Hat Enterprise Linux**
- Description:

```
Red Hat Resource Group Manager provides high availability of critical
server
applications in the event of planned or unplanned system downtime.
```

- Added Dependencies:
  - slang-devel
- No removed dependencies

rhel-instnum-1.0.7-1.el5 - rhel-instnum-1.0.9-1.el5

- Group: **System Environment/Base**
- Summary: **A library for decoding RHEL installation numbers**
- Description:

```
rhel-instnum provides methods for decoding RHEL installation numbers
```

- No added dependencies
- Removed Dependencies:
  - python

rhn-client-tools-0.4.16-1.el5 - rhn-client-tools-0.4.19-17.el5

- Group: **System Environment/Base**
- Summary: **Support programs and libraries for Red Hat Network**
- Description:

```
Red Hat Network Client Tools provides programs and libraries to allow
your
system to receive software updates from Red Hat Network.
```

- No added dependencies
- No removed dependencies

rhnlib-2.2.5-1.el5 - rhnlib-2.2.6-2.el5

- Group: **Development/Libraries**
- Summary: **Python libraries for the RHN project**
- Description:

```
rhnlib is a collection of python modules used by the
Red Hat Network (http://rhn.redhat.com) software.
```

- No added dependencies
- No removed dependencies

rhpxl-0.41.1-1.el5 - rhpxl-0.41.1-7.el5

- Group: **System Environment/Libraries**
- Summary: **Python library for configuring and running X.**

- Description:

```
The rhpxl (pronounced 'rapunzel') package contains a Python library for
configuring and running X.
```

- No added dependencies
- No removed dependencies

rpm-4.4.2-47.el5 - rpm-4.4.2.3-9.el5

- Group: **System Environment/Base**
- Summary: **The RPM package management system**
- Description:

```
The RPM Package Manager (RPM) is a powerful command line driven
package management system capable of installing, uninstalling,
verifying, querying, and updating software packages. Each software
package consists of an archive of files along with information about
the package like its version, a description, etc.
```

- Added Dependencies:
  - doxygen
  - gawk
  - nss-devel
  - redhat-rpm-config
- Removed Dependencies:
  - autoconf
  - beecrypt-devel >= 4.1.2
  - sed

rsh-0.17-37.el5 - rsh-0.17-38.el5

- Group: **Applications/Internet**
- Summary: **Clients for remote access commands (rsh, rlogin, rcp).**
- Description:

```
The rsh package contains a set of programs which allow users to run
commands on remote machines, login to other machines and copy files
between machines (rsh, rlogin and rcp). All three of these commands
use rhosts style authentication. This package contains the clients
needed for all of these services.
The rsh package should be installed to enable remote access to other
machines.
```

- No added dependencies
- No removed dependencies

ruby-1.8.5-5.el5 - ruby-1.8.5-5.el5_2.6

- Group: **Development/Languages**

- Summary: **An interpreter of object-oriented scripting language**
- Description:

```
Ruby is the interpreted scripting language for quick and easy
object-oriented programming. It has many features to process text
files and to do system management tasks (as in Perl). It is simple,
straight-forward, and extensible.
```

- No added dependencies
- No removed dependencies

s390utils-1.5.3-10.el5.14 - s390utils-1.5.3-21.el5

- Group: **System Environment/Base**
- Summary: **Linux/390 specific utilities.**
- Description:

```
This package contains utilities related to Linux for S/390.
The most important programs contained in this package are:

- The cmstools suite to list, check, copy and cat files from a CMS
volume.
- chccwdev, a script to generically change attributes of a ccw device.
- dasdfmt, which is used to low-level format eckd-dasds with
either the classic linux disk layout or the new z/OS
compatible disk layout.
- dasdview, which displays DASD and VTOC information and dumps the
content
of a DASD to the console.
- fdasd, which is used to create or modify partitions on
eckd-dasds formatted with the z/OS compatible disk layout.
- osasnmpd, a subagent for net-snmp to access the OSA hardware.
- qetharp to query and purge address data in the OSA and HiperSockets
hardware
- qethconf to configure IBM QETH function IPA, VIPA and Proxy ARP.
- src_vipa.sh to start applications using VIPA capabilities
- tunedasd, a tool to adjust tunable parameters on DASD devices
- vmconvert, a tool to convert vm dumps to lkcd compatible dumps.
- vmcp, a tool to send CP commands from a Linux guest to the VM.
- zipl, which is used to make either dasds or tapes bootable
for system IPL or system dump.
- zdump, which is used to retrieve system dumps from either
tapes or dasds.
```

- No added dependencies
- No removed dependencies

sabayon-2.12.4-5.el5 - sabayon-2.12.4-6.el5

- Group: **Applications/System**
- Summary: **Tool to maintain user profiles in a GNOME desktop**
- Description:

```
Sabayon is a tool to help sysadmins and user change and maintain the
default behaviour of the GNOME desktop. This package contains the
graphical tools which a sysadmin use to manage Sabayon profiles.
```

- No added dependencies
- No removed dependencies

salinfo-1.1-3.el5 - salinfo-1.1-4.el5

- Group: **Utilities/System**
- Summary: **Sal info tool.**
- Description:

```
The IA64 Linux kernel has a Software Abstraction Layer (SAL). One of
SAL's tasks is to record machine problems such as CMC (correctable
machine checks), CPE (correctable platform errors), MCA (machine check
architecture) and INIT (cpu initialized after boot). These records are
provided by SAL to user space. salinfo saves and decodes CMC/CPE/MCA
and INIT records.
```

- No added dependencies
- No removed dependencies

samba-3.0.25b-0.el5.4 - samba-3.0.33-3.7.el5

- Group: **System Environment/Daemons**
- Summary: **The Samba SMB server.**
- Description:

```
Samba is the suite of programs by which a lot of PC-related machines
share files, printers, and other information (such as lists of
available files and printers). The Windows NT, OS/2, and Linux
operating systems support this natively, and add-on packages can
enable the same thing for DOS, Windows, VMS, UNIX of all kinds, MVS,
and more. This package provides an SMB server that can be used to
provide network services to SMB (sometimes called "Lan Manager")
clients. Samba uses NetBIOS over TCP/IP (NetBT) protocols and does NOT
need the NetBEUI (Microsoft Raw NetBIOS frame) protocol.
```

- No added dependencies
- No removed dependencies

sblim-1-29.EL5 - sblim-1-31.el5_2.1

- Group: **Applications/System**
- Summary: **Standards Based Linux Instrumentation for Manageability**
- Description:

```
SBLIM stands for Standards Based Linux Instrumentation for Manageability,
and consists of a set of standards based Web Based Enterprise Management
(WBEM) modules that use the Common Information Model (CIM) standard to
gather and provide systems management information, events, and methods
to local or networked consumers via an CIM object services broker using
the CMPI (Common Manageability Programming Interface) standard.
This package provides a set of core providers and development tools
for systems management applications.
```

- Added Dependencies:
  - sed
- No removed dependencies

scim-1.4.4-39.el5 - scim-1.4.4-41.el5

- Group: **System Environment/Libraries**
- Summary: **Smart Common Input Method platform**
- Description:

```
SCIM is a user friendly and full featured input method user interface
and
also a development platform to make life easier for Input Method
developers.
```

- No added dependencies
- No removed dependencies

scim-anthy-1.2.0-5.el5 - scim-anthy-1.2.0-6.el5

- Group: **System Environment/Libraries**
- Summary: **SCIM IMEngine for anthy for Japanese input**
- Description:

```
Scim-anthy is a SCIM IMEngine module for anthy to support Japanese input.
```

- No added dependencies
- No removed dependencies

scim-bridge-0.4.5-7.el5 - scim-bridge-0.4.5-8.el5

- Group: **System Environment/Libraries**
- Summary: **SCIM Bridge Gtk IM module**
- Description:

```
SCIM Bridge is a C implementation of a Gtk IM module for SCIM.
```

- No added dependencies
- No removed dependencies

scim-chewing-0.3.1-10.el5 - scim-chewing-0.3.1-11.el5

- Group: **System Environment/Libraries**
- Summary: **Chewing Chinese input method for SCIM**
- Description:

```
This package provides Chewing Chinese input method for SCIM.
```

- No added dependencies
- No removed dependencies

scim-pinyin-0.5.91-15.el5 - scim-pinyin-0.5.91-16.el5

- Group: **System Environment/Libraries**
- Summary: **Smart Pinyin IMEngine for Smart Common Input Method platform**
- Description:

```
Simplified Chinese Smart Pinyin IMEngine for SCIM.
```

- No added dependencies
- No removed dependencies

scsi-target-utils-0.0-0.20070620snap.el5 - scsi-target-utils-0.0-5.20080917snap.el5

- Group: **System Environment/Daemons**
- Summary: **The SCSI target daemon and utility programs**
- Description:

```
The SCSI target package contains the daemon and tools to setup a SCSI
targets.
Currently, software iSCSI targets are supported.
```

- Added Dependencies:
  - libibverbs-devel
  - librdmacm-devel
- No removed dependencies

selinux-policy-2.4.6-104.el5 - selinux-policy-2.4.6-203.el5

- Group: **System Environment/Base**
- Summary: **SELinux policy configuration**
- Description:

```
SELinux Reference Policy - modular.
```

- No added dependencies
- No removed dependencies

setroubleshoot-1.8.11-4.el5 - setroubleshoot-2.0.5-3.el5

- Group: **Applications/System**
- Summary: **Helps troubleshoot SELinux problems**
- Description:

```
setroubleshoot gui. Application that allows you to view setroubleshoot-
server
messages.
Provides tools to help diagnose SELinux problems. When AVC messages
are generated an alert can be generated that will give information
about the problem and help track its resolution. Alerts can be
configured
to user preference. The same tools can be run on existing log files.
```

- Added Dependencies:
  - desktop-file-utils
  - htmlview
- No removed dependencies

setup-2.5.58-1.el5 - setup-2.5.58-4.el5

- Group: **System Environment/Base**
- Summary: **A set of system configuration and setup files.**
- Description:

```
The setup package contains a set of important system configuration and
setup files, such as passwd, group, and profile.
```

- No added dependencies
- No removed dependencies

sg3_utils-1.20-2.1 - sg3_utils-1.25-1.el5

- Group: **Utilities/System**
- Summary: **Utils for Linux's SCSI generic driver devices + raw devices**
- Description:

```
Collection of Linux utilities for devices that use the SCSI command set.
Includes utilities to copy data based on "dd" syntax and semantics
(called
sg_dd, sgp_dd and sgm_dd); check INQUIRY data and VPD pages (sg_inq);
check
mode and log pages (sginfo, sg_modes and sg_logs); spin up and down
disks (sg_start); do self tests (sg_senddiag); and various other
functions.
See the README, CHANGELOG and COVERAGE files. Requires the linux kernel
2.4
series or later. In the 2.4 series SCSI generic device names (e.g.
/dev/sg0)
must be used. In the 2.6 series other device names may be used as
well (e.g. /dev/sda).

Warning: Some of these tools access the internals of your system
and the incorrect usage of them may render your system inoperable.
```

- No added dependencies
- No removed dependencies

shadow-utils-4.0.17-12.el5 - shadow-utils-4.0.17-14.el5

- Group: **System Environment/Base**
- Summary: **Utilities for managing accounts and shadow password files.**
- Description:

```
The shadow-utils package includes the necessary programs for
converting UNIX password files to the shadow password format, plus
programs for managing user and group accounts. The pwconv command
converts passwords to the shadow password format. The pwunconv command
unconverts shadow passwords and generates an npasswd file (a standard
UNIX password file). The pwck command checks the integrity of password
and shadow files. The lastlog command prints out the last login times
for all users. The useradd, userdel, and usermod commands are used for
managing user accounts. The groupadd, groupdel, and groupmod commands
are used for managing group accounts.
```

- No added dependencies
- No removed dependencies

shared-mime-info-0.19-3.el5 - shared-mime-info-0.19-5.el5

- Group: **System Environment/Libraries**
- Summary: **Shared MIME information database**
- Description:

```
This is the freedesktop.org shared MIME info database.

Many programs and desktops use the MIME system to represent the types of
files. Frequently, it is necessary to work out the correct MIME type for
a file. This is generally done by examining the file's name or contents,
and looking up the correct MIME type in a database.
```

- No added dependencies
- No removed dependencies

smartmontools-5.36-3.1.el5 - smartmontools-5.38-2.el5

- Group: **System Environment/Base**
- Summary: **Tools for monitoring SMART capable hard disks**
- Description:

```
The smartmontools package contains two utility programs (smartctl
and smartd) to control and monitor storage systems using the Self-
Monitoring, Analysis and Reporting Technology System (SMART) built
into most modern ATA and SCSI hard disks. In many cases, these
utilities will provide advanced warning of disk degradation and
failure.
```

- Added Dependencies:
  - libselinux-devel
- No removed dependencies

sos-1.7-9.1.el5 - sos-1.7-9.16.el5

- Group: **Development/Libraries**
- Summary: **A set of tools to gather troubleshooting information from a system**
- Description:

```
Sos is a set of tools that gathers information about system
hardware and configuration. The information can then be used for
diagnostic purposes and debugging. Sos is commonly used to help
support technicians and developers.
```

- No added dependencies
- No removed dependencies

spamassassin-3.1.9-1.el5 - spamassassin-3.2.5-1.el5

- Group: **Applications/Internet**
- Summary: **Spam filter for email which can be invoked from mail delivery agents.**
- Description:

```
SpamAssassin provides you with a way to reduce if not completely
eliminate
Unsolicited Commercial Email (SPAM) from your incoming email. It can
be invoked by a MDA such as sendmail or postfix, or can be called from
a procmail script, .forward file, etc. It uses a genetic-algorithm
evolved scoring system to identify messages which look spammy, then
adds headers to the message so they can be filtered by the user's mail
reading software. This distribution includes the spamd/spamc components
which create a server that considerably speeds processing of mail.

To enable spamassassin, if you are receiving mail locally, simply add
this line to your ~/.procmailrc:
INCLUDERC=/etc/mail/spamassassin/spamassassin-default.rc

To filter spam for all users, add that line to /etc/procmailrc
(creating if necessary).
```

- Added Dependencies:
  - perl-HTML-Parser >= 3.43
- No removed dependencies

speex-1.0.5-4 - speex-1.0.5-4.el5_1.1

- Group: **System Environment/Libraries**
- Summary: **A voice compression format (codec)**
- Description:

```
Speex is a patent-free compression format designed especially for
speech. It is specialized for voice communications at low bit-rates in
the 2-45 kbps range. Possible applications include Voice over IP
(VoIP), Internet audio streaming, audio books, and archiving of speech
data (e.g. voice mail).
```

- No added dependencies
- No removed dependencies

squid-2.6.STABLE6-4.el5 - squid-2.6.STABLE21-3.el5

- Group: **System Environment/Daemons**
- Summary: **The Squid proxy caching server.**
- Description:

```
Squid is a high-performance proxy caching server for Web clients,
supporting FTP, gopher, and HTTP data objects. Unlike traditional
caching software, Squid handles all requests in a single,
non-blocking, I/O-driven process. Squid keeps meta data and especially
hot objects cached in RAM, caches DNS lookups, supports non-blocking
DNS lookups, and implements negative caching of failed requests.

Squid consists of a main server program squid, a Domain Name System
lookup program (dnsserver), a program for retrieving FTP data
(ftpget), and some management and client tools.
```

- No added dependencies

- No removed dependencies

strace-4.5.16-1.el5.1 - strace-4.5.18-2.el5

- Group: **Development/Debuggers**
- Summary: **Tracks and displays system calls associated with a running process**
- Description:

```
The strace program intercepts and records the system calls called and
received by a running process. Strace can print a record of each
system call, its arguments and its return value. Strace is useful for
diagnosing problems and debugging, as well as for instructional
purposes.

Install strace if you need a tool to track the system calls made and
received by a process.
```

- Added Dependencies:
  - libacl-devel
  - libaio-devel
- No removed dependencies

stunnel-4.15-2 - stunnel-4.15-2.el5.1

- Group: **Applications/Internet**
- Summary: **An SSL-encrypting socket wrapper.**
- Description:

```
Stunnel is a socket wrapper which can provide SSL (Secure Sockets
Layer) support to ordinary applications. For example, it can be used
in conjunction with imapd to create an SSL secure IMAP server.
```

- No added dependencies
- No removed dependencies

subversion-1.4.2-2.el5 - subversion-1.4.2-4.el5

- Group: **Development/Tools**
- Summary: **Modern Version Control System designed to replace CVS**
- Description:

```
Subversion is a concurrent version control system which enables one
or more users to collaborate in developing and maintaining a
hierarchy of files and directories while keeping a history of all
changes. Subversion only stores the differences between versions,
instead of every complete file. Subversion is intended to be a
compelling replacement for CVS.
```

- Added Dependencies:
  - neon-devel >= 0:0.25.5-6.el5

- Removed Dependencies:
  - neon-devel >= 0:0.24.7-1

sudo-1.6.8p12-10 - sudo-1.6.9p17-3.el5

- Group: **Applications/System**
- Summary: **Allows restricted root access for specified users.**
- Description:

```
Sudo (superuser do) allows a system administrator to give certain
users (or groups of users) the ability to run some (or all) commands
as root while logging all commands and arguments. Sudo operates on a
per-command basis. It is not a replacement for the shell. Features
include: the ability to restrict what commands a user may run on a
per-host basis, copious logging of each command (providing a clear
audit trail of who did what), a configurable timeout of the sudo
command, and the ability to use the same configuration file (sudoers)
on many different machines.
```

- Added Dependencies:
  - audit-libs-devel
  - autoconf
  - automake
  - libcap-devel
  - libtool
- No removed dependencies

sysklogd-1.4.1-40.el5 - sysklogd-1.4.1-44.el5

- Group: **System Environment/Daemons**
- Summary: **System logging and kernel message trapping daemons.**
- Description:

```
The sysklogd package contains two system utilities (syslogd and klogd)
which provide support for system logging. Syslogd and klogd run as
daemons (background processes) and log system messages to different
places, like sendmail logs, security logs, error logs, etc.
```

- No added dependencies
- No removed dependencies

sysstat-7.0.0-3.el5 - sysstat-7.0.2-3.el5

- Group: **Applications/System**
- Summary: **The sar and iostat system monitoring commands.**
- Description:

```
This package provides the sar and iostat commands for Linux. Sar and
iostat enable system monitoring of disk, network, and other IO
activity.
```

- No added dependencies
- No removed dependencies

system-config-bind-4.0.3-2.el5 - system-config-bind-4.0.3-4.el5

- Group: **Applications/System**
- Summary: **The Red Hat BIND DNS Configuration Tool.**
- Description:

```
The system-config-bind package provides a graphical user interface (GUI)
to
configure the Berkeley Internet Name Domain (BIND) Domain Name System
(DNS)
server, "named", with a set of python modules.
Users new to BIND configuration can use this tool to quickly set up a
working
DNS server.
```

- No added dependencies
- No removed dependencies

system-config-cluster-1.0.50-1.3 - system-config-cluster-1.0.55-1.0

- Group: **Applications/System**
- Summary: **system-config-cluster is a utility which allows you to manage cluster configuration in a graphical setting.**
- Description:

```
system-config-cluster is a utility which allows you to manage cluster
configuuration in a graphical setting.
```

- No added dependencies
- No removed dependencies

system-config-date-1.8.12-1.el5 - system-config-date-1.8.12-3.el5

- Group: **System Environment/Base**
- Summary: **A graphical interface for modifying system date and time**
- Description:

```
system-config-date is a graphical interface for changing the system date
and
time, configuring the system time zone, and setting up the NTP daemon to
synchronize the time of the system with an NTP time server.
```

- No added dependencies
- No removed dependencies

system-config-httpd-1.3.3.1-1.el5 - system-config-httpd-1.3.3.3-1.el5

- Group: **Applications/System**
- Summary: **Apache configuration tool**
- Description:

```
A RHN configuration tool for apache.
```

- Added Dependencies:
  - gettext
- No removed dependencies

system-config-kdump-1.0.12-1.el5 - system-config-kdump-1.0.14-4.el5

- Group: **System Environment/Base**
- Summary: **A graphical interface for configuring kernel crash dumping**
- Description:

```
system-config-kdump is a graphical tool for configuring kernel crash
dumping via kdump and kexec.
```

- No added dependencies
- No removed dependencies

system-config-kickstart-2.6.19.1-1.el5 - system-config-kickstart-2.6.19.8-2.el5

- Group: **System Environment/Base**
- Summary: **A graphical interface for making kickstart files.**
- Description:

```
Kickstart Configurator is a graphical tool for creating kickstart files.
```

- No added dependencies
- No removed dependencies

system-config-language-1.1.18-1.el5 - system-config-language-1.1.18-2.el5

- Group: **System Environment/Base**
- Summary: **A graphical interface for modifying the system language**
- Description:

```
system-config-language is a graphical user interface that
allows the user to change the default language of the system.
```

- No added dependencies
- No removed dependencies

system-config-lvm-1.0.22-1.0.el5 - system-config-lvm-1.1.5-1.0.el5

- Group: **Applications/System**
- Summary: **A utility for graphically configuring Logical Volumes**

- Description:

```
system-config-lvm is a utility for graphically configuring Logical
Volumes
```

- Added Dependencies:
  - intltool
- No removed dependencies

system-config-network-1.3.99-2.el5 - system-config-network-1.3.99.12-1.el5

- Group: **Applications/System**
- Summary: **The GUI of the NEtwork Adminstration Tool**
- Description:

```
This is the GUI of the network configuration tool,
supporting Ethernet, Wireless, TokenRing, ADSL, ISDN and PPP.
```

- No added dependencies
- No removed dependencies

system-config-printer-0.7.32.5-1.el5 - system-config-printer-0.7.32.10-1.el5

- Group: **System Environment/Base**
- Summary: **A printer administration tool**
- Description:

```
system-config-printer is a graphical user interface that allows
the user to configure a CUPS print server.
```

- No added dependencies
- No removed dependencies

system-config-samba-1.2.39-1.el5 - system-config-samba-1.2.41-3.el5

- Group: **System Environment/Base**
- Summary: **Samba server configuration tool**
- Description:

```
system-config-samba is a graphical user interface for creating,
modifying, and deleting samba shares.
```

- No added dependencies
- No removed dependencies

system-config-securitylevel-1.6.29.1-1.el5 - system-config-securitylevel-1.6.29.1-2.1.el5

- Group: **System Environment/Base**
- Summary: **A graphical interface for modifying the system security**

level

- Description:

```
system-config-securitylevel is a graphical user interface for
setting basic firewall rules.
```

- No added dependencies
- No removed dependencies

system-config-users-1.2.51-1.el5 - system-config-users-1.2.51-4.el5

- Group: **Applications/System**
- Summary: **A graphical interface for administering users and groups**
- Description:

```
system-config-users is a graphical utility for administrating
users and groups. It depends on the libuser library.
```

- No added dependencies
- No removed dependencies

systemtap-0.5.14-1.el5 - systemtap-0.7.2-2.el5

- Group: **Development/System**
- Summary: **Instrumentation System**
- Description:

```
SystemTap is an instrumentation system for systems running Linux 2.6.
Developers can write instrumentation to collect data on the operation
of the system.
```

- Added Dependencies:
  - /usr/bin/dvips
  - /usr/bin/latex
  - /usr/bin/ps2pdf
  - crash-devel
  - elfutils-devel >= 0.127
  - latex2html
  - zlib-devel
- Removed Dependencies:
  - dejagnu
  - glib2-devel >= 2.0.0

tcp_wrappers-7.6-40.4.el5 - tcp_wrappers-7.6-40.6.el5

- Group: **System Environment/Daemons**
- Summary: **A security tool which acts as a wrapper for TCP daemons.**
- Description:

```
The tcp_wrappers package provides small daemon programs which can
monitor and filter incoming requests for systat, finger, FTP, telnet,
rlogin, rsh, exec, tftp, talk and other network services.

Install the tcp_wrappers program if you need a security tool for
filtering incoming network services requests.

This version also supports IPv6.
```

- No added dependencies
- No removed dependencies

tcpdump-3.9.4-11.el5 - tcpdump-3.9.4-14.el5

- Group: **Applications/Internet**
- Summary: **A network traffic monitoring tool.**
- Description:

```
Tcpdump is a command-line tool for monitoring network traffic.
Tcpdump can capture and display the packet headers on a particular
network interface or on all interfaces. Tcpdump can display all of
the packet headers, or just the ones that match particular criteria.

Install tcpdump if you need a program to monitor network traffic.
```

- Added Dependencies:
  - /usr/sbin/sendmail
- No removed dependencies

tcsh-6.14-12.el5 - tcsh-6.14-14.el5

- Group: **System Environment/Shells**
- Summary: **An enhanced version of csh, the C shell.**
- Description:

```
Tcsh is an enhanced but completely compatible version of csh, the C
shell. Tcsh is a command language interpreter which can be used both
as an interactive login shell and as a shell script command processor.
Tcsh includes a command line editor, programmable word completion,
spelling correction, a history mechanism, job control and a C language
like syntax.
```

- No added dependencies
- No removed dependencies

telnet-0.17-38.el5 - telnet-0.17-39.el5

- Group: **Applications/Internet**
- Summary: **The client program for the telnet remote login protocol.**
- Description:

```
Telnet is a popular protocol for logging into remote systems over the
Internet. The telnet package provides a command line telnet client.
```

- No added dependencies
- No removed dependencies

tetex-3.0-33.1.el5 - tetex-3.0-33.2.el5_1.2

- Group: **Applications/Publishing**
- Summary: **The TeX text formatting system.**
- Description:

```
TeTeX is an implementation of TeX for Linux or UNIX systems. TeX takes
a text file and a set of formatting commands as input and creates a
typesetter-independent .dvi (DeVice Independent) file as output.
Usually, TeX is used in conjunction with a higher level formatting
package like LaTeX or PlainTeX, since TeX by itself is not very
user-friendly. The output format needn't to be DVI, but also PDF,
when using pdflatex or similar tools.

Install tetex if you want to use the TeX text formatting system. Consider
to install tetex-latex (a higher level formatting package which provides
an easier-to-use interface for TeX). Unless you are an expert at using
TeX,
you should also install the tetex-doc package, which includes the
documentation for TeX.
```

- No added dependencies
- No removed dependencies

tk-8.4.13-3.fc6 - tk-8.4.13-5.el5_1.1

- Group: **Development/Languages**
- Summary: **Tk graphical toolkit for the Tcl scripting language**
- Description:

```
When paired with the Tcl scripting language, Tk provides a fast and
powerful
way to create cross-platform GUI applications.
```

- No added dependencies
- No removed dependencies

tmpwatch-2.9.7-1.1.el5.1 - tmpwatch-2.9.7-1.1.el5.2

- Group: **System Environment/Base**
- Summary: **A utility for removing files based on when they were last accessed.**
- Description:

```
The tmpwatch utility recursively searches through specified
directories and removes files which have not been accessed in a
specified period of time. Tmpwatch is normally used to clean up
directories which are used for temporarily holding files (for example,
/tmp). Tmpwatch ignores symlinks, won't switch filesystems and only
removes empty directories and regular files.
```

- No added dependencies
- No removed dependencies

tog-pegasus-2.6.1-2.el5 - tog-pegasus-2.7.1-2.el5

- Group: **Systems Management/Base**
- Summary: **OpenPegasus WBEM Services for Linux**
- Description:

```
OpenPegasus WBEM Services for Linux enables management solutions that
deliver
increased control of enterprise resources. WBEM is a platform and
resource
independent DMTF standard that defines a common information model and
communication protocol for monitoring and controlling resources from
diverse
sources.
```

- Added Dependencies:
  - net-snmp-devel
- No removed dependencies

tomcat5-5.5.23-0jpp.3.0.2.el5 - tomcat5-5.5.23-0jpp.7.el5_2.1

- Group: **Networking/Daemons**
- Summary: **Apache Servlet/JSP Engine, RI for Servlet 2.4/JSP 2.0 API**
- Description:

```
Tomcat is the servlet container that is used in the official Reference
Implementation for the Java Servlet and JavaServer Pages technologies.
The Java Servlet and JavaServer Pages specifications are developed by
Sun under the Java Community Process.

Tomcat is developed in an open and participatory environment and
released under the Apache Software License. Tomcat is intended to be
a collaboration of the best-of-breed developers from around the world.
We invite you to participate in this open development project. To
learn more about getting involved, click here.
```

- No added dependencies
- No removed dependencies

totem-2.16.7-1.el5 - totem-2.16.7-4.el5

- Group: **Applications/Multimedia**

- Summary: **Movie player for GNOME 2**
- Description:

```
Totem is simple movie player for the Gnome desktop. It features a
simple playlist, a full-screen mode, seek and volume controls, as well
as
a pretty complete keyboard navigation.
```

- Added Dependencies:
  - gecko-devel-unstable >= 1.9
- Removed Dependencies:
  - firefox-devel

traceroute-2.0.1-2.el5 - traceroute-2.0.1-5.el5

- Group: **Applications/Internet**
- Summary: **Traces the route taken by packets over an IPv4/IPv6 network**
- Description:

```
The traceroute utility displays the route used by IP packets on their
way to a specified network (or Internet) host. Traceroute displays
the IP number and host name (if possible) of the machines along the
route taken by the packets. Traceroute is used as a network debugging
tool. If you're having network connectivity problems, traceroute will
show you where the trouble is coming from along the route.

Install traceroute if you need a tool for diagnosing network connectivity
problems.
```

- No added dependencies
- No removed dependencies

tzdata-2007d-1.el5 - tzdata-2008i-1.el5

- Group: **System Environment/Base**
- Summary: **Timezone data**
- Description:

```
This package contains data files with rules for various timezones around
the world.
```

- No added dependencies
- No removed dependencies

udev-095-14.9.el5 - udev-095-14.19.el5

- Group: **System Environment/Base**
- Summary: **A userspace implementation of devfs**
- Description:

```
The udev package contains an implementation of devfs in
userspace using sysfs and netlink.
```

- No added dependencies
- No removed dependencies

unzip-5.52-2.2.1 - unzip-5.52-3.el5

- Group: **Applications/Archiving**
- Summary: **A utility for unpacking zip files.**
- Description:

```
The unzip utility is used to list, test, or extract files from a zip
archive. Zip archives are commonly found on MS-DOS systems. The zip
utility, included in the zip package, creates zip archives. Zip and
unzip are both compatible with archives created by PKWARE(R)'s PKZIP
for MS-DOS, but the programs' options and default behaviors do differ
in some respects.

Install the unzip package if you need to list, test or extract files
from
a zip archive.
```

- No added dependencies
- No removed dependencies

usermode-1.88-3.el5 - usermode-1.88-3.el5.2

- Group: **Applications/System**
- Summary: **Tools for certain user account management tasks.**
- Description:

```
The usermode package contains the userhelper program, which can be
used to allow configured programs to be run with superuser privileges
by ordinary users.
```

- No added dependencies
- No removed dependencies

util-linux-2.13-0.45.el5 - util-linux-2.13-0.50.el5

- Group: **System Environment/Base**
- Summary: **A collection of basic system utilities.**
- Description:

```
The util-linux package contains a large variety of low-level system
utilities that are necessary for a Linux system to function. Among
others, Util-linux contains the fdisk configuration tool and the login
program.
```

- No added dependencies

- No removed dependencies

vim-7.0.109-3.el5.3 - vim-7.0.109-4.el5_2.4z

- Group: **Applications/Editors**
- Summary: **The VIM editor.**
- Description:

```
VIM (VIsual editor iMproved) is an updated and improved version of the
vi editor. Vi was the first real screen-based editor for UNIX, and is
still very popular. VIM improves on vi by adding new features:
multiple windows, multi-level undo, block highlighting and more.
```

- No added dependencies
- No removed dependencies

virt-manager-0.4.0-3.el5 - virt-manager-0.5.3-10.el5

- Group: **Applications/Emulators**
- Summary: **Virtual Machine Manager**
- Description:

```
Virtual Machine Manager provides a graphical tool for administering
virtual machines such as Xen. It uses libvirt as the backend management
API.
```

- No added dependencies
- No removed dependencies

vixie-cron-4.1-72.el5 - vixie-cron-4.1-76.el5

- Group: **System Environment/Base**
- Summary: **The Vixie cron daemon for executing specified programs at set times.**
- Description:

```
The vixie-cron package contains the Vixie version of cron. Cron is a
standard UNIX daemon that runs specified programs at scheduled times.
Vixie cron adds better security and more powerful configuration
options to the standard version of cron.
```

- No added dependencies
- No removed dependencies

vnc-4.1.2-9.el5 - vnc-4.1.2-14.el5

- Group: **User Interface/Desktops**
- Summary: **A remote display system.**
- Description:

```
Virtual Network Computing (VNC) is a remote display system which
allows you to view a computing 'desktop' environment not only on the
machine where it is running, but from anywhere on the Internet and
from a wide variety of machine architectures. This package contains a
client which will allow you to connect to other desktops running a VNC
server.
```

- Added Dependencies:
  - libselinux-devel
  - mesa-source
- Removed Dependencies:
  - libdrm-devel

vsftpd-2.0.5-10.el5 - vsftpd-2.0.5-12.el5

- Group: **System Environment/Daemons**
- Summary: **vsftpd - Very Secure Ftp Daemon**
- Description:

```
vsftpd is a Very Secure FTP daemon. It was written completely from
scratch.
```

- No added dependencies
- No removed dependencies

wireshark-0.99.6-1.el5 - wireshark-1.0.3-4.el5_2

- Group: **Applications/Internet**
- Summary: **Network traffic analyzer**
- Description:

```
Wireshark is a network traffic analyzer for Unix-ish operating systems.

This package lays base for libpcap, a packet capture and filtering
library, contains command-line utilities, contains plugins and
documentation for wireshark. A graphical user interface is packaged
separately to GTK+ package.
```

- Added Dependencies:
  - bison
  - flex
  - libsmi-devel
- Removed Dependencies:
  - net-snmp-devel >= 5.3
  - net-snmp-utils >= 5.3

words-3.0-9 - words-3.0-9.1

- Group: **System Environment/Libraries**

- Summary: **A dictionary of English words for the /usr/share/dict directory.**
- Description:

```
The words file is a dictionary of English words for the
/usr/share/dict directory. Some programs use this database of
words to check spelling. Password checkers use it to look for bad
passwords.
```

- No added dependencies
- No removed dependencies

wpa_supplicant-0.4.8-10.1.fc6 - wpa_supplicant-0.5.10-8.el5

- Group: **System Environment/Base**
- Summary: **WPA/WPA2/IEEE 802.1X Supplicant**
- Description:

```
wpa_supplicant is a WPA Supplicant for Linux, BSD and Windows with
support
for WPA and WPA2 (IEEE 802.11i / RSN). Supplicant is the IEEE 802.1X/WPA
component that is used in the client stations. It implements key
negotiation
with a WPA Authenticator and it controls the roaming and IEEE 802.11
authentication/association of the wlan driver.
```

- Added Dependencies:
  - dbus-devel
- No removed dependencies

x3270-3.3.4p7-3.el5.1 - x3270-3.3.4p7-3.el5.4

- Group: **Applications/Internet**
- Summary: **An X Window System based IBM 3278/3279 terminal emulator**
- Description:

```
The x3270 package contains files needed for emulating the IBM 3278/3279
terminals, commonly used with mainframe applications.

You will also need to install a frontend for x3270. Available frontends
are x3270-x11 (for the X Window System) and x3270-text (for text mode).
```

- Added Dependencies:
  - /usr/bin/makeconv
  - libicu-devel
- No removed dependencies

xen-3.0.3-41.el5 - xen-3.0.3-80.el5

- Group: **Development/Libraries**
- Summary: **Xen is a virtual machine monitor**

- Description:

```
This package contains the Xen tools and management daemons needed
to run virtual machines on x86, x86_64, and ia64 systems.
Information on how to use Xen can be found at the Xen project pages.

The Xen system also requires the Xen hypervisor and domain-0
kernel, which can be found in the kernel-xen* package.

Virtualization can be used to run multiple operating systems on one
physical system, for purposes of hardware consolidation, hardware
abstraction, or to test untrusted applications in a sandboxed
environment.
```

- No added dependencies
- No removed dependencies

xfig-3.2.4-21.2.el5 - xfig-3.2.4-21.3.el5

- Group: **Applications/Multimedia**
- Summary: **An X Window System tool for drawing basic vector graphics.**
- Description:

```
Xfig is an X Window System tool for creating basic vector graphics,
including bezier curves, lines, rulers and more. The resulting
graphics can be saved, printed on PostScript printers or converted to
a variety of other formats (e.g., X11 bitmaps, Encapsulated
PostScript, LaTeX).

You should install xfig if you need a simple program to create vector
graphics.
```

- No added dependencies
- No removed dependencies

xorg-x11-drv-ati-6.6.3-3.2.el5 - xorg-x11-drv-ati-6.6.3-3.22.el5

- Group: **User Interface/X Hardware Support**
- Summary: **Xorg X11 ati video driver**
- Description:

```
X.Org X11 ati video driver.
```

- Added Dependencies:
  - autoconf
  - automake
  - libtool
  - xorg-x11-server-randr-source >= 1.1.1-48.52.el5
- No removed dependencies

xorg-x11-drv-i810-1.6.5-9.6.el5 - xorg-x11-drv-i810-1.6.5-9.21.el5

- Group: **User Interface/X Hardware Support**
- Summary: **Xorg X11 i810 video driver(s)**
- Description:

```
X.Org X11 i810 video driver.
```

- Added Dependencies:
  - xorg-x11-server-randr-source >= 1.1.1-48.46.el5
- No removed dependencies

xorg-x11-drv-keyboard-1.1.0-2.1 - xorg-x11-drv-keyboard-1.1.0-3

- Group: **User Interface/X Hardware Support**
- Summary: **Xorg X11 keyboard input driver**
- Description:

```
X.Org X11 keyboard input driver.
```

- No added dependencies
- No removed dependencies

xorg-x11-drv-mga-1.4.2-6.el5 - xorg-x11-drv-mga-1.4.2-10.el5

- Group: **User Interface/X Hardware Support**
- Summary: **Xorg X11 mga video driver**
- Description:

```
X.Org X11 mga video driver.
```

- No added dependencies
- No removed dependencies

xorg-x11-drv-mutouch-1.1.0-2 - xorg-x11-drv-mutouch-1.1.0-3

- Group: **User Interface/X Hardware Support**
- Summary: **Xorg X11 mutouch input driver**
- Description:

```
X.Org X11 mutouch input driver.
```

- No added dependencies
- No removed dependencies

xorg-x11-drv-nv-2.1.2-1.el5 - xorg-x11-drv-nv-2.1.12-3.el5

- Group: **User Interface/X Hardware Support**
- Summary: **Xorg X11 nv video driver**
- Description:

```
X.Org X11 nv video driver.
```

- Added Dependencies:
  - xorg-x11-server-randr-source >= 1.1.1-48.46.el5
- No removed dependencies

xorg-x11-drv-sis-0.9.1-7 - xorg-x11-drv-sis-0.9.1-7.1.el5

- Group: **User Interface/X Hardware Support**
- Summary: **Xorg X11 sis video driver**
- Description:

```
X.Org X11 sis video driver.
```

- No added dependencies
- No removed dependencies

xorg-x11-server-1.1.1-48.26.el5 - xorg-x11-server-1.1.1-48.52.el5

- Group: **User Interface/X**
- Summary: **X.Org X11 X server**
- Description:

```
X.Org X11 X server
```

- No added dependencies
- No removed dependencies

xorg-x11-xinit-1.0.2-13.el5 - xorg-x11-xinit-1.0.2-15.el5

- Group: **User Interface/X**
- Summary: **X.Org X11 X Window System xinit startup scripts**
- Description:

```
X.Org X11 X Window System xinit startup scripts
```

- No added dependencies
- No removed dependencies

xsane-0.991-4.el5 - xsane-0.991-5.el5

- Group: **Applications/Multimedia**
- Summary: **An X Window System front-end for the SANE scanner interface.**
- Description:

```
XSane is an X based interface for the SANE (Scanner Access Now Easy)
library, which provides access to scanners, digital cameras, and other
capture devices. XSane is written in GTK+ and provides control for
performing the scan and then manipulating the captured image.
```

- No added dependencies
- No removed dependencies

xterm-215-5.el5 - xterm-215-8.el5

- Group: **User Interface/X**
- Summary: **xterm terminal emulator for the X Window System**
- Description:

```
The xterm program is a terminal emulator for the X Window System. It
provides DEC VT102 and Tektronix 4014 compatible terminals for
programs that can't use the window system directly.
```

- No added dependencies
- No removed dependencies

yaboot-1.3.13-5.el5 - yaboot-1.3.13-7.el5

- Group: **System Environment/Base**
- Summary: **Linux bootloader for Power Macintosh "New World" computers.**
- Description:

```
yaboot is a bootloader for PowerPC machines which works on New World
ROM
machines (Rev. A iMac and newer) and runs directly from Open Firmware,
eliminating the need for Mac OS.
yaboot can also bootload IBM pSeries machines.
```

- Added Dependencies:
  - e2fsprogs-devel
- No removed dependencies

yelp-2.16.0-15.el5 - yelp-2.16.0-22.el5

- Group: **Applications/System**
- Summary: **A system documentation reader from the Gnome project**
- Description:

```
Yelp is the Gnome 2 help/documentation browser. It is designed
to help you browse all the documentation on your system in
one central tool.
```

- Added Dependencies:
  - gecko-devel-unstable >= 1.9
- Removed Dependencies:

- gecko-devel >= 1.8.0.12

ypbind-1.19-8.el5 - ypbind-1.19-11.el5

- Group: **System Environment/Daemons**
- Summary: **The NIS daemon which binds NIS clients to an NIS domain.**
- Description:

```
The Network Information Service (NIS) is a system that provides
network information (login names, passwords, home directories, group
information) to all of the machines on a network. NIS can allow users
to log in on any machine on the network, as long as the machine has
the NIS client programs running and the user's password is recorded in
the NIS passwd database. NIS was formerly known as Sun Yellow Pages
(YP).

This package provides the ypbind daemon. The ypbind daemon binds NIS
clients to an NIS domain. Ypbind must be running on any machines
running NIS client programs.

Install the ypbind package on any machines running NIS client programs
(included in the yp-tools package). If you need an NIS server, you
also need to install the ypserv package to a machine on your network.
```

- No added dependencies
- No removed dependencies

ypserv-2.19-3 - ypserv-2.19-5.el5

- Group: **System Environment/Daemons**
- Summary: **The NIS (Network Information Service) server.**
- Description:

```
The Network Information Service (NIS) is a system that provides
network information (login names, passwords, home directories, group
information) to all of the machines on a network. NIS can allow users
to log in on any machine on the network, as long as the machine has
the NIS client programs running and the user's password is recorded in
the NIS passwd database. NIS was formerly known as Sun Yellow Pages
(YP).

This package provides the NIS server, which will need to be running on
your network. NIS clients do not need to be running the server.

Install ypserv if you need an NIS server for your network. You also
need to install the yp-tools and ypbind packages on any NIS client
machines.
```

- No added dependencies
- No removed dependencies

yum-3.0.1-5.el5 - yum-3.2.19-18.el5

- Group: **System Environment/Base**

- Summary: **RPM installer/updater**
- Description:

```
Yum is a utility that can check for and automatically download and
install updated RPM packages. Dependencies are obtained and downloaded
automatically prompting the user as necessary.
```

- Added Dependencies:
  - intltool
- No removed dependencies

yum-metadata-parser-1.0-8.fc6 - yum-metadata-parser-1.1.2-2.el5

- Group: **Development/Libraries**
- Summary: **A fast metadata parser for yum**
- Description:

```
Fast metadata parser for yum implemented in C.
```

- No added dependencies
- No removed dependencies

yum-rhn-plugin-0.5.2-3.el5 - yum-rhn-plugin-0.5.3-30.el5

- Group: **System Environment/Base**
- Summary: **RHN support for yum**
- Description:

```
This yum plugin provides support for yum to access a Red Hat Network
server for
software updates.
```

- No added dependencies
- No removed dependencies

yum-utils-1.0.4-3.el5 - yum-utils-1.1.16-13.el5

- Group: **Development/Tools**
- Summary: **Utilities based around the yum package manager**
- Description:

- No added dependencies
- No removed dependencies

zip-2.31-1.2.2 - zip-2.31-2.el5

- Group: **Applications/Archiving**
- Summary: **A file compression and packaging utility compatible with PKZIP.**
- Description:

```
The zip program is a compression and file packaging utility. Zip is
analogous to a combination of the UNIX tar and compress commands and
is compatible with PKZIP (a compression and file packaging utility for
MS-DOS systems).

Install the zip package if you need to compress files using the zip
program.
```

- No added dependencies
- No removed dependencies

13. Configuration Changes From Previous Release

```
   iscsi-initiator-utils-6.2.0.868-0.7.el5.i386.rpm: /etc/rc.d/init.d/iscsid
---
+++
@@ -59,9 +59,7 @@

  echo -n $"Stopping iSCSI daemon: "

- # iscsid does not have a nice shutdown process.
- # It really should never be stopped
- pkill -KILL iscsid
+ iscsiadm -k 0
  echo

  modprobe -r ib_iser 2>/dev/null
ypbind-1.19-8.el5.i386.rpm: /etc/rc.d/init.d/ypbind
---
+++
@@ -37,7 +37,7 @@
         [ -x /usr/sbin/selinuxenabled ] && /usr/sbin/selinuxenabled || return
  allow_ypbind=0
  .  /etc/selinux/config
- if [ -e /etc/selinux/${SELINUXTYPE}/modules1/active/booleans.local ]; then
+ if [ -e /etc/selinux/${SELINUXTYPE}/modules/active/booleans.local ]; then
   . /etc/selinux/${SELINUXTYPE}/modules/active/booleans.local
  fi
  if [ $allow_ypbind == 0 ]; then
@@ -52,6 +52,7 @@
     if [ -n "$NISDOMAIN" ]; then
   action $"Setting NIS domain name $NISDOMAIN: " domainname $NISDOMAIN
     else
+  action $"Error: NIS domain name is not set." false
          exit 1
     fi
  fi
@@ -112,7 +113,7 @@
    fi
  fi
  echo
-        selinux_off
+        #selinux_off
  return $RETVAL
 }

udev-095-14.16.el5.i386.rpm: /etc/sysconfig/modules/udev-stw.modules
---
+++
@@ -1,4 +1,6 @@
 #!/bin/sh
-for i in nvram floppy parport lp snd-powermac;do
+MODULES="nvram floppy parport lp snd-powermac"
+[ -f /etc/sysconfig/udev-stw ] && . /etc/sysconfig/udev-stw
+for i in $MODULES ; do
         modprobe $i >/dev/null 2>&1
 done
dhcp-3.0.5-13.el5.i386.rpm: /etc/rc.d/init.d/dhcpd
---
+++
@@ -62,6 +62,11 @@
     [ -f $conf ] || return 6
     $dhcpd -q -t -cf $conf
```

```
     RETVAL=$?
+    if [ $RETVAL -eq 1 ]; then
+        $dhcpd -t -cf $conf
+    else
+        echo "Syntax: OK" >&2
+    fi
     return $RETVAL
 }

initscripts-8.45.19.EL-1.i386.rpm: /etc/rc.d/init.d/netconsole
---
+++
@@ -92,7 +92,7 @@


SYSLOGOPTS="netconsole=$LOCALPORT@$LOCALADDR/$DEV,$SYSLOGPORT@$SYSLOGADDR/$SYSLOG
MACADDR "

- logger -p daemon.info -t netconsole: inserting netconsole module with arguments
\
+ /usr/bin/logger -p daemon.info -t netconsole: inserting netconsole module with
arguments \
  $SYSLOGOPTS
  if [ -n "$SYSLOGOPTS" ]; then
   action $"Initializing netconsole" modprobe netconsole \
bind-9.3.4-6.P1.el5.i386.rpm: /etc/rc.d/init.d/named
---
+++
@@ -253,7 +253,7 @@
         fi
  [ "$RETVAL" -eq 0 ] && success $"$named reload" || failure $"$named reload"
         echo
- return $?
+ return $RETVAL
 }
 probe() {
  # named knows how to reload intelligently; we don't want linuxconf
initscripts-8.45.19.EL-1.i386.rpm: /etc/sysconfig/network-scripts/ifup-ippp
---
+++
@@ -30,20 +30,20 @@
 # check that ipppd is available for syncppp
 if [ "$ENCAP" = "syncppp" ]; then
     if [ ! -x /usr/sbin/ipppd -a ! -x /sbin/ipppd ] ; then
-        logger -p daemon.info -t ifup-ippp "ipppd does not exist or is not
executable"
+        /usr/bin/logger -p daemon.info -t ifup-ippp "ipppd does not exist or is
not executable"
         exit 1
     fi
 fi

 # check that isdnctrl is available
 if [ ! -x /usr/sbin/isdnctrl -a ! -x /sbin/isdnctrl ] ; then
-    logger -p daemon.info -t ifup-ippp "isdnctrl does not exist or is not
executable"
+    /usr/bin/logger -p daemon.info -t ifup-ippp "isdnctrl does not exist or is
not executable"
     exit 1
 fi
```

```
 # check all ISDN devices
 if ! isdnctrl list all >/dev/null 2>&1 ; then
-    logger -p daemon.info -t ifup-ippp "cannot list ISDN devices"
+    /usr/bin/logger -p daemon.info -t ifup-ippp "cannot list ISDN devices"
     exit 1
 fi

@@ -52,12 +52,12 @@

 function log_echo()
 {
-    logger -p daemon.info -t ifup-ippp $"$*"
+    /usr/bin/logger -p daemon.info -t ifup-ippp $"$*"
 }

 function log_isdnctrl()
 {
-    logger -p daemon.info -t ifup-ippp isdnctrl $*
+    /usr/bin/logger -p daemon.info -t ifup-ippp isdnctrl $*
     isdnctrl $* >/dev/null 2>&1 || exit 1
 }

@@ -338,12 +338,12 @@
     [ -n "$NETMASK" ] && netmask="netmask $NETMASK"

     # activate ISDN device
-    logger -p daemon.info -t ifup-ippp "ifconfig $DEVICE $IPADDR pointopoint
$GATEWAY $netmask up"
+    /usr/bin/logger -p daemon.info -t ifup-ippp "ifconfig $DEVICE $IPADDR
pointopoint $GATEWAY $netmask up"
     ifconfig $DEVICE $IPADDR pointopoint $GATEWAY $netmask up >/dev/null 2>&1

     if [ "$ENCAP" = "syncppp" ]; then
         # start ipppd daemon
-        logger -p daemon.info -t ifup-ippp "ipppd $options $netmask"
+        /usr/bin/logger -p daemon.info -t ifup-ippp "ipppd $options $netmask"
         ipppd $options $netmask >/dev/null 2>&1

         # start ibod daemon
lynx-2.8.5-28.1.i386.rpm: /etc/lynx.cfg
---
+++
@@ -1026,7 +1026,7 @@
 # ====
 # Do not define this.
 #
-#TRUSTED_LYNXCGI:none
+TRUSTED_LYNXCGI:none


 .h2 LYNXCGI_ENVIRONMENT
nfs-utils-1.0.9-33.el5.i386.rpm: /etc/rc.d/init.d/rpcgssd
---
+++
@@ -28,19 +28,23 @@
 case "$1" in
   start|condstart)
  # Check that networking is up.
- [ "${NETWORKING}" = "no" ] && exit 6
```

```
+ [ "${NETWORKING}" != "yes" ] && exit 6
  [ ! -x /usr/sbin/rpc.gssd ] && exit 5
-
- # List of kernel modules to load
- [ -z "${SECURE_NFS_MODS}" ] && SECURE_NFS_MODS="des rpcsec_gss_krb5"

  # Make sure the daemon is not already running.
  if status $prog > /dev/null ; then
   exit 0
  fi
+
+ # During condstart need to check again to see
+ # if we are configured to start
+ [ "${SECURE_NFS}" != "yes" ] && exit 6
+
  rm -f $LOCKFILE
+ echo -n $"Starting RPC gssd: "

- echo -n $"Starting RPC gssd: "
+ # List of kernel modules to load
+ [ -z "${SECURE_NFS_MODS}" ] && SECURE_NFS_MODS="des rpcsec_gss_krb5"

  # Make sure the rpc_pipefs filesystem is available
  [ "${RPCMTAB}" != "noload" ] && {
dovecot-1.0.7-2.el5.i386.rpm: /etc/rc.d/init.d/dovecot
---
+++
@@ -7,27 +7,61 @@
 # chkconfig: - 65 35
 # description: Dovecot Imap Server
 # processname: dovecot
+# config: /etc/dovecot.conf
+# config: /etc/sysconfig/dovecot
+# pidfile: /var/run/dovecot/master.pid
+
+### BEGIN INIT INFO
+# Provides: dovecot
+# Required-Start: $local_fs $network
+# Required-Stop: $local_fs $network
+# Should-Start: $remote_fs
+# Should-Stop: $remote_fs
+# Default-Start:
+# Default-Stop: 0 1 2 3 4 5 6
+# Short-Description: start and stop Dovecot Imap server
+# Description: Dovecot is an IMAP server for Linux/UNIX-like systems,
+#              written with security primarily in mind.  It also contains
+#              a small POP3 server.
+### END INIT INFO
+
 # Source function library.
 . /etc/init.d/functions

-test -x /usr/sbin/dovecot || exit 0
+if [ -f /etc/sysconfig/dovecot ]; then
+    . /etc/sysconfig/dovecot
+fi

 RETVAL=0
 prog="Dovecot Imap"
+exec="/usr/sbin/dovecot"
```

```
+config="/etc/dovecot.conf"
+pidfile="/var/run/dovecot/master.pid"
+lockfile="/var/lock/subsys/dovecot"

 start() {
+ [ -x $exec ] || exit 5
+ [ -f $config ] || exit 6
+
         echo -n $"Starting $prog: "
- daemon /usr/sbin/dovecot
+ daemon --pidfile $pidfile $exec $OPTIONS
  RETVAL=$?
- [ $RETVAL -eq 0 ] && touch /var/lock/subsys/dovecot
+ [ $RETVAL -eq 0 ] && touch  $lockfile
  echo
 }

 stop() {
  echo -n $"Stopping $prog: "
- killproc /usr/sbin/dovecot
+ killproc -p $pidfile $exec
  RETVAL=$?
- [ $RETVAL -eq 0 ] && rm -f /var/lock/subsys/dovecot
+ [ $RETVAL -eq 0 ] && rm -f $lockfile
+ echo
+}
+
+reload() {
+ echo -n $"Reloading $prog: "
+ killproc -p $pidfile $exec -HUP
+ RETVAL=$?
  echo
 }

@@ -41,24 +75,27 @@
   stop)
  stop
  ;;
-  reload|restart)
+  reload)
+ reload
+ ;;
+  force-reload|restart)
  stop
  start
  RETVAL=$?
  ;;
-  condrestart)
- if [ -f /var/lock/subsys/dovecot ]; then
+  condrestart|try-restart)
+ if [ -f $lockfile ]; then
       stop
       start
  fi
  ;;
   status)
- status /usr/sbin/dovecot
+ status -p $pidfile $exec
  RETVAL=$?
  ;;
```

```
   *)
- echo $"Usage: $0 {condrestart|start|stop|restart|reload|status}"
- exit 1
+ echo $"Usage: $0 {condrestart|try-restart|start|stop|restart|reload|force-
reload|status}"
+ exit 2
 esac

 exit $RETVAL
device-mapper-multipath-0.4.7-17.el5.i386.rpm: /etc/rc.d/init.d/multipathd
---
+++
@@ -4,7 +4,7 @@
 #
 # Starts the multipath daemon
 #
-# chkconfig: - 13 87
+# chkconfig: - 06 87
 # description: Manage device-mapper multipath devices
 # processname: multipathd

@@ -13,6 +13,7 @@
 initdir=/etc/rc.d/init.d
 lockdir=/var/lock/subsys
 sysconfig=/etc/sysconfig
+syspath=/sys/block


 system=redhat
@@ -25,6 +26,35 @@
 test -r $sysconfig/$prog && . $sysconfig/$prog

 RETVAL=0
+
+teardown_slaves()
+{
+cd $1;
+if [ -d "slaves" ]; then
+for slave in slaves/*;
+do
+ if [ "$slave" = "slaves/*" ]; then
+  read dev <  $1/dev
+  tablename=`dmsetup table --target multipath | sed -n "s/\(.*\): .* $dev
.*/\1/p"`
+  if ! [ -z $tablename ]; then
+   echo "Root is on a multipathed device, multipathd can not be stopped"
+   exit 1
+  fi
+ else
+  local_slave=`readlink -f $slave`;
+  teardown_slaves $local_slave;
+ fi
+ done
+
+else
+  read dev <  $1/dev
+  tablename=`dmsetup table --target multipath | sed -n "s/\(.*\): .* $dev
.*/\1/p"`
+  if ! [ -z $tablename ]; then
+   echo "Root is on a multipathed device, multipathd can not be stopped"
```

```
+   exit 1
+  fi
+fi
+}

 #
 # See how we were called.
@@ -40,6 +70,11 @@
 }

 stop() {
+        root_dev=$(awk '{ if ($1 !~ /^[ \t]*#/ && $2 == "/") { print $1; }}'
/etc/mtab)
+ dm_num=`dmsetup info -c --noheadings -o minor $root_dev`
+ root_dm_device="dm-$dm_num"
+ [ -d $syspath/$root_dm_device ] && teardown_slaves $syspath/$root_dm_device
+
  echo -n $"Stopping $prog daemon: "
  killproc $DAEMON
  RETVAL=$?
initscripts-8.45.19.EL-1.i386.rpm: /etc/rc.d/rc6.d/S01reboot
---
+++
@@ -10,6 +10,9 @@

 NOLOCALE=1
 . /etc/init.d/functions
+
+UMOUNT="umount"
+[ ! -w /etc ] && UMOUNT="umount -n"

 action() {
    echo -n "$1 "
@@ -131,7 +134,7 @@
 # Try to unmount tmpfs filesystems to avoid swapping them in.  Ignore failures.
 tmpfs=$(awk '$2 ~ /^\/($|proc|dev)/ { next; }
       $3 == "tmpfs" { print $2; }' /proc/mounts | sort -r)
-[ -n "$tmpfs" ] && fstab-decode umount $tmpfs 2>/dev/null
+[ -n "$tmpfs" ] && fstab-decode $UMOUNT $tmpfs 2>/dev/null

 # Turn off swap, then unmount file systems.
 [ -f /proc/swaps ] && SWAPS=`awk '! /^Filename/ { print $1 }' /proc/swaps`
@@ -143,8 +146,6 @@
      backdev=$(/sbin/cryptsetup status "$dst" \
   | awk '$1 == "device:" { print $2 }')
      /sbin/cryptsetup remove "$dst"
-     # Leave partition with a blank plain-text swap
-     mkswap "$backdev" > /dev/null
  fi
    done
 fi
@@ -170,7 +171,7 @@
  $"Unmounting file systems (retry): " \
  -f

-[ -f /proc/bus/usb/devices ] && umount /proc/bus/usb
+[ -f /proc/bus/usb/devices ] && $UMOUNT /proc/bus/usb

 [ -f /etc/crypttab ] && \
     LANG=C action $"Stopping disk encryption: " halt_crypto
```

```
@@ -183,7 +184,7 @@
 awk '$2 !~ /\/(|dev|proc|selinux)$/ && $1 !~ /^\/dev\/ram/ { print $2 }' \
     /proc/mounts | sort -r | \
   while read line; do
-    fstab-decode umount -f $line
+    fstab-decode $UMOUNT -f $line
 done

 if [ -x /sbin/halt.local ]; then
alsa-lib-1.0.14-1.rc4.el5.i386.rpm: /etc/alsa/alsa.conf
---
+++
@@ -67,7 +67,7 @@
 defaults.pcm.ipc_perm 0600
 defaults.pcm.dmix.max_periods 0
 defaults.pcm.dmix.rate 48000
-defaults.pcm.dmix.format S16_LE
+defaults.pcm.dmix.format "unchanged"
 defaults.pcm.dmix.card defaults.pcm.card
 defaults.pcm.dmix.device defaults.pcm.device
 defaults.pcm.dsnoop.card defaults.pcm.card
@@ -94,6 +94,9 @@
 defaults.pcm.iec958.device defaults.pcm.device
 defaults.pcm.modem.card defaults.pcm.card
 defaults.pcm.modem.device defaults.pcm.device
+# truncate files via file or tee PCM
+defaults.pcm.file_format "raw"
+defaults.pcm.file_truncate true
 defaults.rawmidi.card 0
 defaults.rawmidi.device 0
 defaults.rawmidi.subdevice -1
@@ -124,6 +127,7 @@
 pcm.surround71 cards.pcm.surround71
 pcm.iec958 cards.pcm.iec958
 pcm.spdif iec958
+pcm.hdmi cards.pcm.hdmi
 pcm.dmix cards.pcm.dmix
 pcm.dsnoop cards.pcm.dsnoop
 pcm.modem cards.pcm.modem
@@ -262,12 +266,19 @@
   }
   @args.FORMAT {
    type string
-   default raw
+   default {
+    @func refer
+    name defaults.pcm.file_format
+   }
   }
   type file
   slave.pcm $SLAVE
   file $FILE
   format $FORMAT
+ truncate {
+  @func refer
+  name defaults.pcm.file_truncate
+ }
 }

 pcm.file {
```

```
@@ -277,12 +288,19 @@
  }
  @args.FORMAT {
   type string
-  default raw
+  default {
+   @func refer
+   name defaults.pcm.file_format
+  }
  }
  type file
  slave.pcm null
  file $FILE
  format $FORMAT
+ truncate {
+  @func refer
+  name defaults.pcm.file_truncate
+ }
 }

 pcm.null {
@@ -316,7 +334,7 @@
 }

 ctl.hw {
- @args[ CARD ]
+ @args [ CARD ]
  @args.CARD {
   type string
   default {
caching-nameserver-9.3.4-6.P1.el5.i386.rpm: /etc/named.caching-nameserver.conf
---
+++
@@ -18,8 +18,12 @@
  dump-file  "/var/named/data/cache_dump.db";
         statistics-file "/var/named/data/named_stats.txt";
         memstatistics-file "/var/named/data/named_mem_stats.txt";
- query-source    port 53;
- query-source-v6 port 53;
+
+ // Those options should be used carefully because they disable port
+ // randomization
+ // query-source    port 53;
+ // query-source-v6 port 53;
+
  allow-query     { localhost; };
 };
 logging {
kexec-tools-1.102pre-21.el5.i386.rpm: /etc/rc.d/init.d/kdump
---
+++
@@ -26,6 +26,7 @@
 KDUMP_KERNELVER=""
 KDUMP_INITRDEXT=""
 KDUMP_COMMANDLINE=""
+KDUMP_IDE_NOPROBE_COMMANDLINE=""
 KEXEC_ARGS=""
 KDUMP_CONFIG_FILE="/etc/kdump.conf"

@@ -107,8 +108,15 @@
```

```
  #check to see if config file or kdump post has been modified
  #since last build of the image file
  image_time=`stat -c "%Y" $kdump_initrd`
- KDUMP_POST=`grep ^kdump_post $KDUMP_CONFIG_FILE | cut -d\  -f2`
- files="$KDUMP_CONFIG_FILE $kdump_kernel $KDUMP_POST"
+ EXTRA_FILES=`grep ^kdump_post $KDUMP_CONFIG_FILE | cut -d\  -f2`
+ CHECK_FILE=`grep ^kdump_pre $KDUMP_CONFIG_FILE | cut -d\  -f2`
+ EXTRA_FILES="$EXTRA_FILES $CHECK_FILE"
+ CHECK_FILE=`grep ^extra_modules $KDUMP_CONFIG_FILE | cut -d\  -f2-`
+ EXTRA_FILES="$EXTRA_FILES $CHECK_FILE"
+ CHECK_FILE=`grep ^extra_bins $KDUMP_CONFIG_FILE | cut -d\  -f2-`
+ EXTRA_FILES="$EXTRA_FILES $CHECK_FILE"
+ FORCE_REBUILD=`grep ^extra_modules $KDUMP_CONFIG_FILE`
+ files="$KDUMP_CONFIG_FILE $kdump_kernel $EXTRA_FILES"
  modified_files=""
  for file in $files; do
   time_stamp=0
@@ -123,9 +131,17 @@
   fi
  done

- if [ -n "$modified_files" -a "$modified_files" != " " ]; then
-  echo "Detected change(s) the following file(s):"
-  echo -n "  "; echo "$modified_files" | sed 's/\s/\n  /g'
+ if [ -n "$FORCE_REBUILD" -a "$modified_files"!=" " ]
+ then
+  modified_files="force_rebuild"
+ fi
+
+ if [ -n "$modified_files" -a "$modified_files"!=" " ]; then
+  if [ "$modified_files" != "force_rebuild" ]
+  then
+   echo "Detected change(s) the following file(s):"
+   echo -n "  "; echo "$modified_files" | sed 's/\s/\n  /g'
+  fi
   echo "Rebuilding $kdump_initrd"
   /sbin/mkdumprd -d -f $kdump_initrd $kdump_kver
   if [ $? != 0 ]; then
@@ -174,6 +190,33 @@
   return 1
  fi
  return 0
+}
+
+function avoid_cdrom_drive()
+{
+ local DRIVE=""
+ local MEDIA=""
+ local IDE_DRIVES=(`echo hd{a,b,c,d}`)
+ local COUNTER="0"
+
+ for DRIVE in ${IDE_DRIVES[@]}
+ do
+  if ! $(echo "$KDUMP_COMMANDLINE" |grep -q "$DRIVE=");then
+   if [ -f /proc/ide/$DRIVE/media ];then
+    MEDIA=$(cat /proc/ide/$DRIVE/media)
+    if [ x"$MEDIA" == x"cdrom" ]; then
+     KDUMP_IDE_NOPROBE_COMMANDLINE="$KDUMP_IDE_NOPROBE_COMMANDLINE
$DRIVE=cdrom"
+     COUNTER=$(($COUNTER+1))
```

```
+    fi
+   fi
+  else
+   KDUMP_IDE_NOPROBE_COMMANDLINE="$KDUMP_IDE_NOPROBE_COMMANDLINE
$DRIVE=noprobe"
+  fi
+ done
+ # We don't find cdrom drive.
+ if [ $COUNTER -eq 0 ]; then
+  KDUMP_IDE_NOPROBE_COMMANDLINE=""
+ fi
 }

 # Load the kdump kerel specified in /etc/sysconfig/kdump
@@ -226,6 +269,8 @@

  KDUMP_COMMANDLINE=`echo $KDUMP_COMMANDLINE | sed -e 's/crashkernel=[0-
9]\+[MmKkGg]@[0-9]\+[MmGgKk]//'`
  KDUMP_COMMANDLINE="${KDUMP_COMMANDLINE} ${KDUMP_COMMANDLINE_APPEND}"
+ avoid_cdrom_drive
+ KDUMP_COMMANDLINE="${KDUMP_COMMANDLINE} ${KDUMP_IDE_NOPROBE_COMMANDLINE}"

  KEXEC_OUTPUT=`$KEXEC $KEXEC_ARGS $standard_kexec_args \
   --command-line="$KDUMP_COMMANDLINE" \
@@ -364,13 +409,7 @@

 function do_final_action()
 {
- FINAL_ACTION=`grep default $KDUMP_CONFIG_FILE | grep -vm1 ^\# \
-   | cut -d\  -f2`
- if [[ $FINAL_ACTION != "halt" ]]; then
-  FINAL_ACTION="reboot"
- fi
-
- $FINAL_ACTION
+ reboot
 }

 case "$1" in
initscripts-8.45.19.EL-1.i386.rpm: /etc/rc.d/init.d/network
---
+++
@@ -171,7 +171,7 @@
   stop)
    # Don't shut the network down if root is on NFS or a network
  # block device.
-        rootfs=$(awk '{ if ($1 !~ /^[ \t]*#/ && $2 == "/") { print $3; }}'
/etc/mtab)
+        rootfs=$(awk '{ if ($1 !~ /^[ \t]*#/ && $2 == "/" && $3 != "rootfs") {
print $3; }}' /proc/mounts)
         rootopts=$(awk '{ if ($1 !~ /^[ \t]*#/ && $2 == "/") { print $4; }}'
/etc/mtab)

  if [[ "$rootfs" =~ "^nfs" ]] || [[ "$rootopts" =~ "_netdev|_rnetdev" ]] ; then
nfs-utils-1.0.9-33.el5.i386.rpm: /etc/rc.d/init.d/rpcidmapd
---
+++
@@ -24,7 +24,7 @@
 case "$1" in
   start|condstart)
```

```
  # Check that networking is up.
- [ "${NETWORKING}" = "no" ] && exit 6
+ [ "${NETWORKING}" != "yes" ] && exit 6

  [ ! -x /usr/sbin/rpc.idmapd ] && exit 5

@@ -32,6 +32,11 @@
  [ "$1" = "condstart" -a -n "`pidofproc $prog`" ] && {
   killproc $prog "-SIGHUP" > /dev/null
   exit 0
+ }
+ [ "$1" = "start" ] && {
+  if status $prog > /dev/null ; then
+   exit 0
+  fi
  }
  rm -f $LOCKFILE

@@ -55,8 +60,6 @@
    }
   }
  }
-
- # Make sure the mount worked.

  # Start daemon.
  daemon $prog ${RPCIDMAPDARGS}
initscripts-8.45.19.EL-1.i386.rpm: /etc/sysconfig/network-scripts/ifup-sl
---
+++
@@ -31,7 +31,7 @@
 [ -x /usr/sbin/dip ] || {
   echo $"/usr/sbin/dip does not exist or is not executable"
   echo $"ifup-sl for $DEVICE exiting"
-  logger -p daemon.info -t ifup-sl \
+  /usr/bin/logger -p daemon.info -t ifup-sl \
     $"/usr/sbin/dip does not exist or is not executable for $DEVICE"
   exit 1
 }
@@ -43,14 +43,14 @@
 [ -f $DIPSCRIPT ] || {
   echo $"/etc/sysconfig/network-scripts/dip-$DEVICE does not exist"
   echo $"ifup-sl for $DEVICE exiting"
-  logger -p daemon.info -t ifup-sl \
+  /usr/bin/logger -p daemon.info -t ifup-sl \
     $"/etc/sysconfig/network-scripts/dip-$DEVICE does not exist for $DEVICE"
   exit 1
 }

 while : ; do
   echo > /var/run/sl-$DEVICE.dev
-  (logger -p daemon.info -t ifup-sl \
+  (/usr/bin/logger -p daemon.info -t ifup-sl \
     $"dip started for $DEVICE on $MODEMPORT at $LINESPEED" &)&
   doexec /usr/sbin/dip dip-$DEVICE $DIPSCRIPT
   if [ "$PERSIST" != "yes" -o ! -f /var/run/sl-$DEVICE.dev ] ; then
ypserv-2.19-3.i386.rpm: /var/yp/Makefile
---
+++
@@ -98,10 +98,18 @@
```

```
 YPSERVERS = $(YPDIR)/ypservers # List of all NIS servers for a domain

 target: Makefile
+ifeq ($(shell /bin/domainname), (none))
+ @echo "Domain name cannot be (none)"
+else
+ifeq ($(shell /bin/domainname), )
+ @echo "Domain name must be set"
+else
  @test ! -d $(LOCALDOMAIN) && mkdir $(LOCALDOMAIN) ; \
  cd $(LOCALDOMAIN)  ; \
  $(NOPUSH) || $(MAKE) -f ../Makefile ypservers; \
  $(MAKE) -f ../Makefile all
+endif
+endif

 # If you don't want some of these maps built, feel free to comment
 # them out from this list.
initscripts-8.45.19.EL-1.i386.rpm: /etc/rc.d/init.d/netfs
---
+++
@@ -35,6 +35,8 @@
 # See how we were called.
 case "$1" in
   start)
+ # Let udev handle any backlog before trying to mount file systems
+ /sbin/udevsettle --timeout=30
         [ -n "$NFSFSTAB" ] &&
     {
       [ ! -f /var/lock/subsys/portmap ] && service portmap start
nfs-utils-1.0.9-33.el5.i386.rpm: /etc/rc.d/init.d/rpcsvcgssd
---
+++
@@ -27,12 +27,9 @@
 case "$1" in
   start|condstart)
  # Check that networking is up.
- [ "${NETWORKING}" = "no" ] && exit 6
+ [ "${NETWORKING}" != "yes" ] && exit 6
  [ "${SECURE_NFS}" != "yes" ] && exit 6
  [ ! -x /usr/sbin/rpc.svcgssd ] && exit 5
-
- # List of kernel modules to load
- [ -z "${SECURE_NFS_MODS}" ] && SECURE_NFS_MODS="des rpcsec_gss_krb5"

  # Make sure the daemon is not already running.
  if status $prog > /dev/null ; then
@@ -41,6 +38,9 @@
  rm -f $LOCKFILE

  echo -n $"Starting RPC svcgssd: "
+ # List of kernel modules to load
+ [ -z "${SECURE_NFS_MODS}" ] && SECURE_NFS_MODS="des rpcsec_gss_krb5"
+

  # Make sure the rpc_pipefs filesystem is available
  [ "${RPCMTAB}" != "noload" ] && {
openldap-servers-2.3.27-8.el5_1.3.i386.rpm: /etc/rc.d/init.d/ldap
---
+++
```

```
@@ -21,7 +21,7 @@

 # Source an auxiliary options file if we have one, and pick up OPTIONS,
 # SLAPD_OPTIONS, SLURPD_OPTIONS, SLAPD_LDAPS, SLAPD_LDAPI, and maybe
-# KRB5_KTNAME.
+# KRB5_KTNAME and SLURPD_KRB5CCNAME.
 if [ -r /etc/sysconfig/ldap ] ; then
  . /etc/sysconfig/ldap
 fi
@@ -114,7 +114,7 @@
   echo -n $"$file is not readable by \"$user\"" ; warning ; echo
  fi
  # Unaccessible TLS configuration files.
- tlsconfigs=`LANG=C egrep
'^(TLSCACertificateFile|TLSCertificateFile|TLSCertificateKeyFile)[[:space:]]'
/etc/openldap/slapd.conf | awk '{print $2}'`
+ tlsconfigs=`LANG=C egrep
'^(TLS_CACERT|TLSCACertificateFile|TLSCertificateFile|TLSCertificateKeyFile)[[:spac
e:]]' /etc/openldap/slapd.conf /etc/openldap/ldap.conf | awk '{print $2}'`
 for file in $tlsconfigs ; do
  if ! testasuser $user -r $file ; then
   echo -n $"$file is not readable by \"$user\"" ; warning ; echo
@@ -167,6 +167,9 @@
     if grep -q "^replogfile" /etc/openldap/slapd.conf; then
   prog=`basename ${slurpd}`
   echo -n $"Starting $prog: "
+  if [ -n "$SLURPD_KRB5CCNAME" ]; then
+   export KRB5CCNAME="$SLURPD_KRB5CCNAME";
+  fi
   daemon ${slurpd} $OPTIONS $SLURPD_OPTIONS
   RETVAL=$?
   echo
initscripts-8.45.19.EL-1.i386.rpm: /etc/rc.d/rc.sysinit
---
+++
@@ -143,7 +143,7 @@
 skip=""
 # Parse the src field for UUID= and convert to real device names
 if [ "${src%%=*}" == "UUID" ]; then
-  src=`/sbin/blkid -t "$src" -o device|(read oneline;echo $oneline)`
+  src=$(/sbin/blkid -t "$src" -l -o device)
 elif [ "${src/^\/dev\/disk\/by-uuid\/}" != "$src" ]; then
  src=$(__readlink $src)
 fi
@@ -458,6 +458,13 @@
 fi
fi

+if [ -f /etc/crypttab ]; then
+ s=$"Starting disk encryption:"
+ echo "$s"
+ init_crypto 0 && success "$s" || failure "$s"
+ echo
+fi
+
 if [ -f /fastboot ] || strstr "$cmdline" fastboot ; then
  fastboot=yes
 fi
@@ -533,7 +540,7 @@
 mountopts=
```

```
  # Scan partitions for local scratch storage
- rw_mount_dev=$(blkid -t LABEL="$RW_LABEL" -o device | awk '{ print ; exit }')
+ rw_mount_dev=$(blkid -t LABEL="$RW_LABEL" -l -o device)

  # First try to mount scratch storage from /etc/fstab, then any
  # partition with the proper label.  If either succeeds, be sure
@@ -590,12 +597,12 @@

  # First try to mount persistent data from /etc/fstab, then any
  # partition with the proper label, then fallback to NFS
- state_mount_dev=$(blkid -t LABEL="$STATE_LABEL" -o device | awk '{ print ; exit
}')
- if mount $mountopts "$STATE_MOUNT" > /dev/null 2>&1 ; then
+ state_mount_dev=$(blkid -t LABEL="$STATE_LABEL" -l -o device)
+ if mount $mountopts $STATE_OPTIONS "$STATE_MOUNT" > /dev/null 2>&1 ; then
   /bin/true
  elif [ x$state_mount_dev != x ] && mount $state_mount_dev $mountopts
"$STATE_MOUNT" > /dev/null 2>&1;  then
   /bin/true
- elif [ -n "$CLIENTSTATE" ]; then
+ elif [ ! -z "$CLIENTSTATE" ]; then
   # No local storage was found.  Make a final attempt to find
   # state on an NFS server.

@@ -730,23 +737,29 @@
    restorecon /etc/mtab /etc/ld.so.cache /etc/blkid/blkid.tab /etc/resolv.conf
>/dev/null 2>&1
 fi

-# Clear mtab
-(> /etc/mtab) &> /dev/null
-
-# Remove stale backups
-rm -f /etc/mtab~ /etc/mtab~~
-
-# Enter mounted filesystems into /etc/mtab
-mount -f /
-mount -f /proc >/dev/null 2>&1
-mount -f /sys >/dev/null 2>&1
-mount -f /dev/pts >/dev/null 2>&1
-mount -f /proc/bus/usb >/dev/null 2>&1
+if [ "$READONLY" != "yes" ] ; then
+ # Clear mtab
+ (> /etc/mtab) &> /dev/null
+
+ # Remove stale backups
+ rm -f /etc/mtab~ /etc/mtab~~
+
+ # Enter mounted filesystems into /etc/mtab
+ mount -f /
+ mount -f /proc >/dev/null 2>&1
+ mount -f /sys >/dev/null 2>&1
+ mount -f /dev/pts >/dev/null 2>&1
+ mount -f /proc/bus/usb >/dev/null 2>&1
+fi

 # Mount all other filesystems (except for NFS and /proc, which is already
 # mounted). Contrary to standard usage,
 # filesystems are NOT unmounted in single user mode.
```

```
-action $"Mounting local filesystems: " mount -a -t
nonfs,nfs4,smbfs,ncpfs,cifs,gfs -O no_netdev
+if [ "$READONLY" != "yes" ] ; then
+ action $"Mounting local filesystems: " mount -a -t
nonfs,nfs4,smbfs,ncpfs,cifs,gfs -O no_netdev
+else
+ action $"Mounting local filesystems: " mount -a -n -t nfs4,smbfs,ncpfs,cifs,gfs
-O no_netdev
+fi

 if [ -x /sbin/quotaon ]; then
     action $"Enabling local filesystem quotas: " /sbin/quotaon -aug
@@ -898,7 +911,7 @@
 action $"Enabling /etc/fstab swaps: " swapon -a -e
 if [ "$AUTOSWAP" = "yes" ]; then
  curswap=$(awk '/^\/dev/ { print $1 }' /proc/swaps | while read x; do
get_numeric_dev dec $x ; echo -n " "; done)
- swappartitions=`blkid -t TYPE=swap -o device`
+ swappartitions=$(blkid -t TYPE=swap -o device)
  if [ x"$swappartitions" != x ]; then
   for partition in $swappartitions ; do
    [ ! -e $partition ] && continue
initscripts-8.45.19.EL-1.i386.rpm: /etc/sysconfig/network-scripts/ifdown-sl
---
+++
@@ -35,7 +35,7 @@

 kill -KILL $PID > /dev/null 2>&1
 if [ -d /proc/$PID ]; then
-  logger -p daemon.info -t ifdown-ppp "ifdown-ppp unable to kill pppd-$DEVICE" &
+  /usr/bin/logger -p daemon.info -t ifdown-ppp "ifdown-ppp unable to kill pppd-
$DEVICE" &
 else
   /etc/sysconfig/network-scripts/ifdown-post $1
 fi
NetworkManager-0.6.4-8.el5.i386.rpm: /etc/rc.d/init.d/NetworkManager
---
+++
@@ -4,7 +4,7 @@
 #
 # chkconfig: - 98 02
 # description:  This is a daemon for automatically switching network \
-#               connections to the best available connection. \
+#               connections to the best available connection.
 #
 # processname: NetworkManager
 # pidfile: /var/run/NetworkManager/NetworkManager.pid
@@ -19,11 +19,11 @@
 # Sanity checks.
 [ -x $NETWORKMANAGER_BIN ] || exit 1

-# We need /sbin/ip
-[ -x /sbin/ip ] || exit 1
-
 # Source function library.
 . /etc/rc.d/init.d/functions
+
+# Source network configuration
+. /etc/sysconfig/network
```

```
 # so we can rearrange this easily
 processname=NetworkManager
@@ -34,17 +34,23 @@

 start()
 {
- echo $"Setting network parameters... "
+ echo -n $"Setting network parameters... "
  sysctl -e -p /etc/sysctl.conf >/dev/null 2>&1
-
- if [ ! -e /var/lock/subsys/dhcdbd ]; then
-  service dhcdbd start
- fi
+ success
+ echo

  echo -n $"Starting NetworkManager daemon: "
- daemon --check $servicename $processname --pid-file=$pidfile
+ daemon --check $servicename $processname --pid-file=$pidfile --ppp-dns-
workaround
  RETVAL=$?
  echo
+ if [ -n "${NETWORKWAIT}" ]; then
+  [ -z "${LINKDELAY}" ] && LINKDELAY=10
+  echo -n $"Waiting for network..."
+  nm-online -q --timeout=$LINKDELAY || nm-online -q -x --timeout=30
+  [ "$?" = "0" ] && success "network startup" || failure "network startup"
+  echo
+  [ -n "${NETWORKDELAY}" ] && /bin/sleep ${NETWORKDELAY}
+ fi
  [ $RETVAL -eq 0 ] && touch /var/lock/subsys/$servicename
 }

initscripts-8.45.19.EL-1.i386.rpm: /etc/sysconfig/network-scripts/network-
functions-ipv6
---
+++
@@ -138,14 +138,14 @@
   ;;
      'syslog')
   # note: logger resides in /usr/bin, but not used by default
-  if ! [ -x logger ]; then
+  if ! [ -x /usr/bin/logger ]; then
    echo $"ERROR: [ipv6_log] Syslog is chosen, but binary 'logger' doesn't exist
or isn't executable" >/dev/stderr
    return 3
   fi
   if [ -z "$txt_name" ]; then
-   logger -p $facility.$priority $message
+   /usr/bin/logger -p $facility.$priority $message
   else
-   logger -p $facility.$priority -t "$txt_name" "$message"
+   /usr/bin/logger -p $facility.$priority -t "$txt_name" "$message"
   fi
   ;;
      *)
nfs-utils-1.0.9-33.el5.i386.rpm: /etc/rc.d/init.d/nfs
---
+++
@@ -19,6 +19,9 @@
```

```
 # Check for and source configuration file otherwise set defaults
 [ -f /etc/sysconfig/nfs ] && . /etc/sysconfig/nfs

+# Remote quota server
+[ -z "$RQUOTAD" ] && RQUOTAD=`type -path rpc.rquotad`
+
 RETVAL=0

 # See how we were called.
@@ -26,11 +29,16 @@
   start)

  # Check that networking is up.
- [ "${NETWORKING}" = "no" ] && exit 6
+ [ "${NETWORKING}" != "yes" ] && exit 6

  [ -x /usr/sbin/rpc.nfsd ] || exit 5
  [ -x /usr/sbin/rpc.mountd ] || exit 5
  [ -x /usr/sbin/exportfs ] || exit 5
+
+ # Make sure the rpc.mountd is not already running.
+ if status rpc.mountd > /dev/null ; then
+  exit 0
+ fi

  # Don't fail if /etc/exports doesn't exist; create a bare-bones
  # version and continue.
@@ -42,9 +50,6 @@

  # Number of servers to be started by default
  [ -z "$RPCNFSDCOUNT" ] && RPCNFSDCOUNT=8
-
- # Remote quota server
- [ -z "$RQUOTAD" ] && RQUOTAD=`type -path rpc.rquotad`

  # Start daemons.
  [ -x /usr/sbin/rpc.svcgssd ] && /sbin/service rpcsvcgssd start
@@ -67,6 +72,12 @@
   RETVAL=$?
      echo
  fi
+
+ # Load preload module so arguments to rpc.nfsd will take effect
+ [ -n "$RPCNFSDARGS" -a "$NFSD_MODULE" != "noload" ] && {
+  [ -x /sbin/modprobe ] && /sbin/modprobe nfsd
+ }
+
  echo -n $"Starting NFS daemon: "
  daemon rpc.nfsd $RPCNFSDARGS $RPCNFSDCOUNT
  RETVAL=$?
initscripts-8.45.19.EL-1.i386.rpm: /etc/sysconfig/network-scripts/network-functions
---
+++
@@ -28,7 +28,7 @@

 get_config_by_subchannel ()
 {
-    LANG=C grep -il "^[[:space:]]*SUBCHANNELS=${1}\([[:space:]#]\|$\|,\)"
/etc/sysconfig/network-scripts/ifcfg-* \
+    LANG=C egrep -i -l  "^[[:space:]]*SUBCHANNELS=([0-9]\.[0-9]\.[a-f0-
```

```
9]+,){0,2}${1}(,[0-9]\.[0-9]\.[a-f0-9]+){0,2}([[:space:]]+#|[[:space:]]*$)"
/etc/sysconfig/network-scripts/ifcfg-* \
  | LC_ALL=C sed -e "$__sed_discard_ignored_files"
 }

@@ -434,7 +434,7 @@
     (echo "$s" > /etc/resolv.conf;) >/dev/null 2>&1;
     r=$?
     if [ $r -eq 0 ]; then
- logger -p local7.notice -t "NET" -i "$0 : updated /etc/resolv.conf";
+ /usr/bin/logger -p local7.notice -t "NET" -i "$0 : updated /etc/resolv.conf";
  [ -e /var/lock/subsys/nscd ] && /usr/sbin/nscd -i hosts; # invalidate cache
     fi;
     return $r;
initscripts-8.45.19.EL-1.i386.rpm: /etc/rc.d/rc0.d/S01halt
---
+++
@@ -10,6 +10,9 @@

 NOLOCALE=1
 . /etc/init.d/functions
+
+UMOUNT="umount"
+[ ! -w /etc ] && UMOUNT="umount -n"

 action() {
    echo -n "$1 "
@@ -131,7 +134,7 @@
 # Try to unmount tmpfs filesystems to avoid swapping them in.  Ignore failures.
 tmpfs=$(awk '$2 ~ /^\/($|proc|dev)/ { next; }
       $3 == "tmpfs" { print $2; }' /proc/mounts | sort -r)
-[ -n "$tmpfs" ] && fstab-decode umount $tmpfs 2>/dev/null
+[ -n "$tmpfs" ] && fstab-decode $UMOUNT $tmpfs 2>/dev/null

 # Turn off swap, then unmount file systems.
 [ -f /proc/swaps ] && SWAPS=`awk '! /^Filename/ { print $1 }' /proc/swaps`
@@ -143,8 +146,6 @@
      backdev=$(/sbin/cryptsetup status "$dst" \
   | awk '$1 == "device:" { print $2 }')
      /sbin/cryptsetup remove "$dst"
-     # Leave partition with a blank plain-text swap
-     mkswap "$backdev" > /dev/null
  fi
     done
 fi
@@ -170,7 +171,7 @@
  $"Unmounting file systems (retry): " \
  -f

-[ -f /proc/bus/usb/devices ] && umount /proc/bus/usb
+[ -f /proc/bus/usb/devices ] && $UMOUNT /proc/bus/usb

 [ -f /etc/crypttab ] && \
     LANG=C action $"Stopping disk encryption: " halt_crypto
@@ -183,7 +184,7 @@
 awk '$2 !~ /\/(|dev|proc|selinux)$/ && $1 !~ /^\/dev\/ram/ { print $2 }' \
     /proc/mounts | sort -r | \
   while read line; do
-    fstab-decode umount -f $line
+    fstab-decode $UMOUNT -f $line
```

```
 done

 if [ -x /sbin/halt.local ]; then
initscripts-8.45.19.EL-1.i386.rpm: /etc/rc.d/init.d/halt
---
+++
@@ -10,6 +10,9 @@

 NOLOCALE=1
 . /etc/init.d/functions
+
+UMOUNT="umount"
+[ ! -w /etc ] && UMOUNT="umount -n"

 action() {
    echo -n "$1 "
@@ -131,7 +134,7 @@
 # Try to unmount tmpfs filesystems to avoid swapping them in.  Ignore failures.
 tmpfs=$(awk '$2 ~ /^\/($|proc|dev)/ { next; }
       $3 == "tmpfs" { print $2; }' /proc/mounts | sort -r)
-[ -n "$tmpfs" ] && fstab-decode umount $tmpfs 2>/dev/null
+[ -n "$tmpfs" ] && fstab-decode $UMOUNT $tmpfs 2>/dev/null

 # Turn off swap, then unmount file systems.
 [ -f /proc/swaps ] && SWAPS=`awk '! /^Filename/ { print $1 }' /proc/swaps`
@@ -143,8 +146,6 @@
       backdev=$(/sbin/cryptsetup status "$dst" \
    | awk '$1 == "device:" { print $2 }')
       /sbin/cryptsetup remove "$dst"
-      # Leave partition with a blank plain-text swap
-      mkswap "$backdev" > /dev/null
   fi
      done
 fi
@@ -170,7 +171,7 @@
   $"Unmounting file systems (retry): " \
   -f

-[ -f /proc/bus/usb/devices ] && umount /proc/bus/usb
+[ -f /proc/bus/usb/devices ] && $UMOUNT /proc/bus/usb

 [ -f /etc/crypttab ] && \
      LANG=C action $"Stopping disk encryption: " halt_crypto
@@ -183,7 +184,7 @@
 awk '$2 !~ /\/(|dev|proc|selinux)$/ && $1 !~ /^\/dev\/ram/ { print $2 }' \
      /proc/mounts | sort -r | \
    while read line; do
-    fstab-decode umount -f $line
+    fstab-decode $UMOUNT -f $line
 done

 if [ -x /sbin/halt.local ]; then
nfs-utils-1.0.9-33.el5.i386.rpm: /etc/rc.d/init.d/nfslock
---
+++
@@ -33,7 +33,7 @@
 RETVAL=0
 start() {
   # Check that networking is up.
- [ "${NETWORKING}" = "no" ] && exit 6
```

```
+ [ "${NETWORKING}" != "yes" ] && exit 6

  if [ "$USERLAND_LOCKD" ] ; then
      [ -x /sbin/rpc.lockd ] || exit 5
@@ -46,9 +46,12 @@
      STATDARG=""
  fi

- if [ -f /var/lock/subsys/nfslock ]; then
-  return $RETVAL
+ # Make sure the rpc.statd is not already running.
+ if status rpc.statd > /dev/null ; then
+  exit 0
  fi
+ rm -f /var/lock/subsys/nfslock
+
  # Start daemons.
  if [ "$USERLAND_LOCKD" ]; then
    echo -n $"Starting NFS locking: "
@@ -64,10 +67,14 @@
    /sbin/sysctl -w fs.nfs.nlm_udpport=$LOCKD_UDPPORT >/dev/null 2>&1
  fi
  echo -n $"Starting NFS statd: "
+ # Set statd's local hostname if defined
+ [ -n "${STATD_HOSTNAME}" ] && STATDARG="$STATDARG -n ${STATD_HOSTNAME}"
+
  # See if a statd's ports has been defined
  [ -n "$STATD_PORT" ] && STATDARG="$STATDARG -p $STATD_PORT"
  [ -n "$STATD_OUTGOING_PORT" ] \
   && STATDARG="$STATDARG -o $STATD_OUTGOING_PORT"
+
  # See if we have an HA-callout program specified
  [ -n "$STATD_HA_CALLOUT" ] \
   && STATDARG="$STATDARG -H $STATD_HA_CALLOUT"
@@ -91,6 +98,7 @@
  RETVAL=$?
  echo
  rm -f /var/lock/subsys/nfslock
+ rm -f /var/run/sm-notify.pid
  return $RETVAL
 }

dbus-1.0.0-7.el5.i386.rpm: /etc/dbus-1/system.conf
---
+++
@@ -15,10 +15,16 @@
   <type>system</type>

   <!-- Run as special user -->
-  <user>81</user>
+  <user>dbus</user>

   <!-- Fork into daemon mode -->
   <fork/>
+
+  <!-- We use system service launching using a helper -->
+  <standard_system_servicedirs/>
+
+  <!-- This is a setuid helper that is used to launch system services -->
+  <servicehelper>/lib/dbus-1/dbus-daemon-launch-helper</servicehelper>
```

```
   <!-- Write a pid file -->
   <pidfile>/var/run/messagebus.pid</pidfile>
initscripts-8.45.19.EL-1.i386.rpm: /etc/sysconfig/network-scripts/ifup-eth
---
+++
@@ -105,9 +105,10 @@

 # slave device?
 if [ "${SLAVE}" = yes -a "${ISALIAS}" = no -a "${MASTER}" != "" ]; then
-    /sbin/ip link set dev ${DEVICE} down
-    echo "+${DEVICE}" > /sys/class/net/${MASTER}/bonding/slaves 2>/dev/null
-
+    grep -wq "${DEVICE}" /sys/class/net/${MASTER}/bonding/slaves || {
+ /sbin/ip link set dev ${DEVICE} down
+ echo "+${DEVICE}" > /sys/class/net/${MASTER}/bonding/slaves 2>/dev/null
+    }
     if [ -n "$ETHTOOL_OPTS" ] ; then
         /sbin/ethtool -s ${REALDEVICE} $ETHTOOL_OPTS
     fi
@@ -125,7 +126,7 @@
     for arg in $BONDING_OPTS ; do
         key=${arg%%=*};
         value=${arg##*=};
-        if [ "${key}" = "arp_ip_target" ]; then
+        if [ "${key}" = "arp_ip_target" -a "${value:0:1}" != "+" ]; then
             OLDIFS=$IFS;
             IFS=',';
             for arp_ip in $value; do
initscripts-8.45.19.EL-1.i386.rpm: /etc/sysconfig/network-scripts/ifup-ppp
---
+++
@@ -44,7 +44,7 @@
 [ -x /sbin/pppd -o -x /usr/sbin/pppd ] || {
   echo $"pppd does not exist or is not executable"
   echo $"ifup-ppp for ${DEVICE} exiting"
-  logger -p daemon.info -t ifup-ppp \
+  /usr/bin/logger -p daemon.info -t ifup-ppp \
     $"pppd does not exist or is not executable for ${DEVICE}"
   exit 1
 }
@@ -55,7 +55,7 @@
         adsl-start /etc/sysconfig/network-scripts/$CONFIG
         exit $?
     else
-        logger -p daemon.info -t ifup-ppp \
+        /usr/bin/logger -p daemon.info -t ifup-ppp \
             $"adsl-start does not exist or is not executable for ${DEVICE}"
         exit 1
     fi
@@ -76,12 +76,12 @@
     [ -f ${CHATSCRIPT} ] || {
      echo $"/etc/sysconfig/network-scripts/chat-${DEVNAME} does not exist"
      echo $"ifup-ppp for ${DEVNAME} exiting"
-     logger -p daemon.info -t ifup-ppp \
+     /usr/bin/logger -p daemon.info -t ifup-ppp \
       $"/etc/sysconfig/network-scripts/chat-${DEVNAME} does not exist for
${DEVICE}"
      exit 1
     }
```

```
   fi
-  logger -s -p daemon.notice -t ifup-ppp \
+  /usr/bin/logger -s -p daemon.notice -t ifup-ppp \
     $"Setting up a new ${PEERCONF} config file"
   if [ -f /etc/ppp/peers/${DEVICE} ]; then
     cp -f /etc/ppp/peers/${DEVICE} ${PEERCONF}
@@ -141,7 +141,7 @@
   exec=exec
 fi

-(logger -p daemon.info -t ifup-ppp \
+(/usr/bin/logger -p daemon.info -t ifup-ppp \
   $"pppd started for ${DEVNAME} on ${MODEMPORT} at ${LINESPEED}" &)&

 $exec pppd $opts ${MODEMPORT} ${LINESPEED} \
tog-pegasus-2.7.0-2.el5.i386.rpm: /etc/rc.d/init.d/tog-pegasus
---
+++
@@ -8,6 +8,8 @@
 CIMSERVER_BIN=/usr/sbin/cimserver
 prog=cimserver
 LOCKFILE=/var/lock/subsys/tog-pegasus
+LOCKFILE2=/var/run/tog-pegasus/cimserver_start.lock
+PIDFILE=/var/run/tog-pegasus/cimserver.pid
 . /etc/rc.d/init.d/functions

 [ -e /etc/sysconfig/tog-pegasus ] && . /etc/sysconfig/tog-pegasus;
@@ -75,6 +77,7 @@
       success;
   else
       failure;
+     RETVAL=7
   fi
   echo
   ;;
@@ -86,8 +89,16 @@
       echo -n $"CIM server ($pid) is running";
       RETVAL=0
   else
-     echo -n $"CIM server is not running";
-     RETVAL=3
+     if [ -e $PIDFILE ]; then
+                echo -n $"CIM server is not running and pid file exists";
+                RETVAL=1
+            elif [ -e $LOCKFILE ] || [ -e $LOCKFILE2 ]; then
+                echo -n $"CIM server is not running and lock file exists";
+                RETVAL=2
+            else
+              echo -n $"CIM server is not running";
+              RETVAL=3
+            fi
   fi
   echo
   ;;
udev-095-14.16.el5.i386.rpm: /etc/udev/rules.d/50-udev.rules
---
+++
@@ -174,7 +174,7 @@
 KERNEL=="mice",   NAME="input/%k"
 KERNEL=="mouse*",  NAME="input/%k"
```

```
-KERNEL=="event*", SYSFS{idVendor}=="03f0", SYSFS{device/interface}=="Virtual
Mouse", SYSFS{device/bInterfaceProtocol}=="02", NAME="input/%k",
SYMLINK+="input/hp_ilo_mouse"
+KERNEL=="event*", SYSFS{idVendor}=="03f0", SYSFS{device/interface}=="Virtual
Mouse", SYSFS{device/bInterfaceProtocol}=="02", SYMLINK+="input/hp_ilo_mouse"

 KERNEL=="event*",  NAME="input/%k"
 KERNEL=="js*",   NAME="input/%k", SYMLINK+="%k"
@@ -220,13 +220,6 @@
 KERNEL=="pcd[0-9]*",  SYMLINK+="cdrom cdrom-%k"
 KERNEL=="fd[0-9]*",  SYMLINK+="floppy floppy-%k"

-# Section for zaptel device
-KERNEL=="zapctl",       NAME="zap/ctl"
-KERNEL=="zaptimer",     NAME="zap/timer"
-KERNEL=="zapchannel",   NAME="zap/channel"
-KERNEL=="zappseudo",    NAME="zap/pseudo"
-KERNEL=="zap[0-9]*",    NAME="zap/%n"
-
 KERNEL=="pktcdvd", NAME="%k/control"

 KERNEL=="hd[a-z]", BUS=="ide", SYSFS{removable}=="1", \
@@ -291,12 +284,14 @@
 KERNEL=="sd*[!0-9]|sr*", ENV{ID_SERIAL}=="", IMPORT{program}="/lib/udev/scsi_id
-g -x -a -s %p -d $tempnode"
 KERNEL=="dasd*[!0-9]", IMPORT{program}="/lib/udev/dasd_id --export $tempnode"
 KERNEL=="nst[0-9]*|st*|sd*[!0-9]|sr*|dasd*[!0-9]|cciss?c", ENV{ID_SERIAL}=="?*",
SYMLINK+="disk/by-id/$env{ID_BUS}-$env{ID_SERIAL}"
+KERNEL=="nst[0-9]*|st*|sd*[!0-9]|sr*|dasd*[!0-9]|cciss?c", ENV{ID_UID}=="?*",
SYMLINK+="disk/by-id/$env{ID_BUS}-$env{ID_UID}"

 # for partitions import parent information
 KERNEL=="sd*[0-9]|dasd*[0-9]", IMPORT{parent}=="ID_*"
 KERNEL=="cciss?c[0-9]d[0-9]", ENV{ID_SERIAL}!="?*", IMPORT{program}="scsi_id -g
-x -s %p -d $tempnode", ENV{ID_BUS}="cciss"
 KERNEL=="cciss?c[0-9]d[0-9]", ENV{ID_SERIAL}!="?*", IMPORT{program}="scsi_id -g
-x -a -s %p -d $tempnode", ENV{ID_BUS}="cciss"
 KERNEL=="sd*[0-9]|dasd*[0-9]|cciss*p[0-9]", ENV{ID_SERIAL}=="?*",
SYMLINK+="disk/by-id/$env{ID_BUS}-$env{ID_SERIAL}-part%n"
+KERNEL=="sd*[0-9]|dasd*[0-9]|cciss*p[0-9]", ENV{ID_UID}=="?*",
SYMLINK+="disk/by-id/$env{ID_BUS}-$env{ID_UID}-part%n"

 # by-path (shortest physical path)
 KERNEL=="*[!0-9]|sr*", ENV{ID_TYPE}=="?*", IMPORT{program}="/lib/udev/path_id
%p", SYMLINK+="disk/by-path/$env{ID_PATH}"
dbus-1.0.0-7.el5.i386.rpm: /etc/dbus-1/session.conf
---
+++
@@ -14,12 +14,16 @@

   <policy context="default">
     <!-- Allow everything to be sent -->
-    <allow send_destination="*"/>
+    <allow send_destination="*" eavesdrop="true"/>
     <!-- Allow everything to be received -->
     <allow eavesdrop="true"/>
     <!-- Allow anyone to own anything -->
     <allow own="*"/>
   </policy>
```

```
+
+  <!-- Config files are placed here that among other things,
+       further restrict the above policy for specific services. -->
+  <includedir>session.d</includedir>

   <!-- This is included last so local configuration can override what's
        in this standard file -->
@@ -27,4 +31,27 @@

   <include if_selinux_enabled="yes"
selinux_root_relative="yes">contexts/dbus_contexts</include>

+  <!-- For the session bus, override the default relatively-low limits
+       with essentially infinite limits, since the bus is just running
+       as the user anyway, using up bus resources is not something we need
+       to worry about. In some cases, we do set the limits lower than
+       "all available memory" if exceeding the limit is almost certainly a bug,
+       having the bus enforce a limit is nicer than a huge memory leak. But the
+       intent is that these limits should never be hit. -->
+
+  <!-- the memory limits are 1G instead of say 4G because they can't exceed 32-
bit signed int max -->
+  <limit name="max_incoming_bytes">1000000000</limit>
+  <limit name="max_outgoing_bytes">1000000000</limit>
+  <limit name="max_message_size">1000000000</limit>
+  <limit name="service_start_timeout">120000</limit>
+  <limit name="auth_timeout">240000</limit>
+  <limit name="max_completed_connections">100000</limit>
+  <limit name="max_incomplete_connections">10000</limit>
+  <limit name="max_connections_per_user">100000</limit>
+  <limit name="max_pending_service_starts">10000</limit>
+  <limit name="max_names_per_connection">50000</limit>
+  <limit name="max_match_rules_per_connection">50000</limit>
+  <limit name="max_replies_per_connection">50000</limit>
+  <limit name="reply_timeout">300000</limit>
+
 </busconfig>
```

A. Änderungsverzeichnis

Version 3-4.400	**2013-10-31**	**Rüdiger Landmann**

Rebuild with publican 4.0.0

Version 3-4	**2012-07-18**	**Anthony Towns**

Rebuild for Publican 3.0

Version 2.1-0	**Wed Jan 21 2009**	**Ryan Lerch**

Removed *iSCSI target capability* note from Technology Previews section. This feature is fully supported. For more details on this newly supported feature, refer to the Feature Updates Section of this document.